



Gloucestershire County Council

ANNUAL REPORT

OF THE

COUNTY MEDICAL OFFICER OF
HEALTH

FOR THE YEAR 1938.

H. KENNETH COWAN
County Medical Officer of Health



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SHIRE HALL,
GLOUCESTER.
June, 1939.

*To the Chairman and Members of
the Public Health Committee.*

Madam Chairman, Ladies and Gentlemen,

I have the honour to present my Annual Report on the health of the County for the year 1938.

The vital statistics for the year are satisfactory, the Death Rate showing a decrease from 13.5 in 1937 to 12.8 this year and the Birth Rate having risen from 14.9 last year to 15.8 per 1,000 of the population in 1938. The Infantile Mortality Rate shows a slight increase over last year, 46 as compared with 45 per 1,000 live births, but compares very favourably with the rate for England and Wales which is 53.

There have been certain alterations in the methods of procedure in connection with some branches of the work which will facilitate their operation. New arrangements have been made in connection with bacteriological and pathological work which will extend the scope of the scheme, and prevent delays through practitioners having to ask for previous approval before submission of specimens. Reduced charges for water analyses will result in much closer and more regular supervision of water supplies in the County.

The Returns of Infectious Diseases received during the year show a serious increase in the number of cases of Diphtheria, and the number of deaths from this disease has risen from eight last year to eighteen this year. In November a County Scheme for artificial immunisation against Diphtheria was approved by the County Council and submitted to the District Councils for their approval. Unfortunately the Scheme met only with qualified approval and it has not been possible to put it into operation. Details of the Scheme will be found in the section of the Report dealing with Infectious Diseases.

Arrangements were made during the year to furnish all Doctors in the County with a weekly list of notifications of Infectious Disease, together with details of any undue prevalence of non-notifiable Infectious Diseases as obtained from the notifications of teachers. This weekly circular has proved of much value to practitioners in keeping them in touch with incidence of infectious diseases outside their own practices.

A special report on orthopaedic treatment was considered by a Minor Committee of the Medical Services Sub-Committee, and certain recommendations have been made which will effect some improvement in the working of the Scheme. The details of the report and recommendations will be found in the section dealing with the treatment services.

As a result of the transfer of the veterinary staff of the County Council to the Ministry of Agriculture, the work in connection with the Milk (Special Designations) Orders 1936 and 1938 was transferred to the Health Department in April. A County Sanitary Inspector and three Milk Sampling Officers have been appointed to enable these duties to be carried out, and details of the arrangements will be found in the section of the report dealing with the inspection and supervision of food.

I would like to express my thanks to the staff for their excellent work during a difficult and busy year, and to the members of the Committee for the kindness and consideration which they have invariably afforded when dealing with the work of the Department.

I have the honour to be,

Your obedient servant,

H. KENNETH COWAN,

County Medical Officer of Health.

INDEX

	PAGE
Ambulance Facilities	14
Ante Natal Clinics	71
Bacteriological and Pathological work	12
Birth Rate	9 and 10
Cancer	9 and 78
Child Welfare Services	75
Clinics	17, 23, 26, 29
Death Rate	9 and 10
Diphtheria	35
Diseases of Central Nervous System	39
Drainage and Sewerage	45
Foods and Drugs	66
Hospitals	18
Infantile Mortality	9 and 11
Infectious Diseases	34
Maternity and Nursing Homes	18, 72 and 76
Maternal Mortality	9 and 73
Mental Deficiency	19
Midwives	70
Milk	64
National Health Campaign	82
Nursing in the Home	17
Ophthalmia Neonatorum	75
Orthopaedic Treatment	22-34
Pneumonia	38
Population	9
Puerperal Pyrexia	74
Rivers and Streams	48
Sanitary Circumstances	39
Scarlet Fever	38
Scavenging	53
Social Conditions	9 and 11
Staff	7
Swimming Baths	59
Tuberculosis	76
Vaccination	18
Veneral Diseases	78
Vital Statistics	9, 10, 11, and Table
Water Supplies	40
Welfare of the Blind	79



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STAFF

COUNTY MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER :
H. KENNETH COWAN, M.D., D.P.H.

DEPUTY COUNTY MEDICAL OFFICER OF HEALTH AND DEPUTY SCHOOL
MEDICAL OFFICER :
F. J. G. LISHMAN, M.D., D.P.H., D.L.O.

MATERNITY AND CHILD WELFARE MEDICAL OFFICER :
E. CATHERINE MORRIS JONES, M.B., B.S., D.P.H.

TUBERCULOSIS OFFICERS (Jointly with City of Gloucester) :
W. ARNOTT DICKSON, M.D., M.R.C.P., F.R.C.S., D.P.H. (also Medical
Superintendent Standish House Sanatorium).
E. D. D. DAVIES, M.R.C.S., L.R.C.P., D.P.H.
F. H. WOOLLEY, M.R.C.S., L.R.C.P., L.D.S.

ASSISTANT COUNTY MEDICAL OFFICERS :
T. F. H. BLAKE, L.R.C.P., L.R.C.S., D.P.H. (Retired July, 1938).
ISABEL R. GORDON, M.B., Ch.B., D.P.H.
R. LOCKHART, M.B., Ch.B., D.P.H. (appointed November, 1938).
H. F. W. ADAMS, M.B., Ch.B., D.P.H.
R. GREEN, M.D., D.P.H.
S. KNIGHT, M.B., B.S., D.P.H.
T. RHIND, M.R.C.S., L.R.C.P., D.P.H.
(Retired December, 1938).
M. L. SUTCLIFFE, M.R.C.S., L.R.C.P., D.P.H. } Also District Medical
Officers of Health.

SENIOR DENTAL OFFICER :
J. FLETCHER, L.D.S., R.C.S.Eng., (appointed 1st September, 1938).

ASSISTANT DENTAL OFFICERS :
AGNES M. LOVE, L.D.S.
MARY M. CLERKE, B.D.S.
P. J. WAKLEY, L.D.S.
B. F. WREN, L.D.S.

COUNTY SANITARY INSPECTOR :
B. J. DODSWORTH, C.R.S.I.

MILK SAMPLING OFFICERS :
F. W. GOODERHAM, N.D.D.
J. I. DUBERLEY, N.D.A.
W. D. ARDERN, N.D.D.

HEALTH VISITORS AND SCHOOL NURSES :

*MRS. V. M. BAUSOR.
 MISS W. M. BECKENSALL (appointed July, 1938).
 MISS E. V. HOWSE.
 MISS E. N. JAMES.
 *MRS. I. V. LADD.
 *MRS. F. E. LYNE.
 *MISS J. I. McLAUCHLAN.
 *MISS E. MASON (Retired 31st August, 1938).
 *MISS D. K. PALIN.
 MISS M. S. PAYNE.
 MISS A. SOMERFIELD.
 MRS. P. E. WATKINS.
 MISS M. D. S. WOOKEY (Temporary, appointed 4th April, 1938).
 MRS. L. WRIGHT.
 District Nurses, 134 part time.
 *also Supervisors of Midwives.

ORTHOPAEDIC AFTER-CARE SISTERS :

MISS E. G. BOWDEN (Resigned April, 1938).
 MISS A. BRACEGIRDLE (Appointed May, 1938).
 MISS D. A. RODENHURST.
 MISS J. SHEPHERD.

DENTAL ATTENDANTS :

MISS W. FREEMAN.
 MISS M. HUNT.
 MISS A. G. POWELL.
 MISS W. H. ROBERTS.
 MISS W. G. STEPHENS (appointed September, 1938).

REPORT.

SECTION A.

STATISTICS AND SOCIAL CONDITIONS OF THE AREA.

Area (in acres) :—

Urban	...	...	...	...	...	...	24,179
Rural	...	...	...	...	...	...	749,821
							774,000

Population :—

Registrar General's Estimate mid 1938 :

Urban	...	...	...	...	...	116,800	
Rural	...	...	...	...	...	226,800	
							343,600

Census 1931 :

Urban	...	...	...	...	...	108,662	
Rural	...	...	...	...	...	222,037	
							330,699

Rateable Value £1,694,804

Sum represented by a penny rate £6,693

Extract from Vital Statistics of the year (whole County) :

Live Births—Legitimate	...	...	...	...	5,247
Illegitimate	...	...	...	...	194
					5,441

Birth Rate per 1,000 of population 15.8

Still Births ... 182 Rate per 1,000 total births ... 32.4

Deaths ... 4,394 Death Rate 12.8

Deaths from Puerperal Causes :—

Puerperal sepsis	...	...	...	...	9
Other puerperal causes	...	...	...	...	12
Total	...	...	...	...	21

Death Rate of Infants under one year of age :—

All infants per 1,000 live births	...	...	...	46
Legitimate infants per 1,000 legitimate live births	...	...	...	46
Illegitimate infants per 1,000 illegitimate live births	...	...	...	52

Death from Cancer (all ages) 582

Measles (all ages) 9

Whooping Cough (all ages) 9

Diarrhoea (under 2 years of age) 10

1. Birth Rate.

The Birth Rate for the year 1938 shows an appreciable increase upon that for the previous year—15.8 per 1,000 of the population in comparison with 14.9 in 1937. The increase is manifest in both Urban and Rural Districts and it will be observed from the table that the rate this year is the highest during the past five years.

The natural increase in the population of the County now stands at a figure of 3.0 per 1,000 of the population which compares very favourably with the figure of 1.4 of last year.

	1934	1935	1936	1937	1938
Urban	12.6	13.5	14.1	13.8	15.1
Rural	14.5	15.2	14.7	15.5	16.2
Administrative County	13.8	14.5	14.5	14.9	15.8
England and Wales	14.8	14.7	14.8	14.9	15.1

2. Death Rate.

The Death Rate for the year is 12.8 which is a decrease on the rate for last year which was 13.5.

The total number of deaths in the County during 1938 was 4,394 and the seven chief causes of death with the corresponding percentages of total deaths were as follows :—

Heart disease	...	...	...	...	27.9
Cancer	...	...	...	...	13.2
Other Circulatory Diseases	...	...	...	...	6.2
Cerebral Haemorrhage	...	...	...	...	6.1
Pneumonia	...	...	...	...	4.2
Violence	...	...	...	...	4.0
Phthisis	...	...	...	...	3.6

The main features of the table show again this year that diseases of the heart and circulatory system still account for the greatest number of deaths and that Cancer is second only to heart disease as a cause of mortality.

A noticeable feature is the fact that deaths from violence should be placed in the sixth position on the list. This is a striking testimony to the risks of our everyday life and is further emphasized by the fact that deaths from suicide are not included in the figure. It is a remarkable commentary on modern living conditions that, whilst our efforts are resulting in a slow decline in the death rate from many diseases, deaths from violence should occupy a prominent position in our mortality tables. Many of these deaths are preventable and there is wide scope for the intensification of measures designed to reduce deaths from all forms of accident.

TABLE OF THE SEVEN CHIEF CAUSES OF DEATH.

The seven chief causes of death	Urban		Rural		Whole County		Percentage of total deaths		
	No.	Rate	No.	Rate	No.	Rate	U.	R.	Whole Cty.
Heart Disease ...	426	3.65	802	3.54	1228	3.57	28.45	27.68	27.90
Cancer ...	215	1.84	367	1.62	582	1.70	14.36	12.70	13.20
Other Circulatory Diseases	85	.73	186	.82	271	.79	5.68	6.42	6.20
Cerebral Haemorrhage	96	.82	170	.75	266	.77	6.41	5.87	6.10
Pneumonia ...	56	.48	127	.56	183	.53	3.74	4.38	4.20
Violence ...	43	.37	131	.58	174	.51	2.87	4.52	4.00
Phthisis ...	59	.51	100	.44	159	.46	3.94	3.45	3.60

3. Infantile Mortality.

The Infant Mortality Rate for the County for 1938 is 46 which is a slight increase on the figure recorded last year. The rate for England and Wales for the same period is 53.

Year	Urban		Rural		Whole County		Rate for England and Wales
	No.	Rate	No.	Rate	No.	Rate	
1934	80	56	152	47	232	50	59
1935	58	41	128	38	186	39	57
1936	70	44	152	46	222	45	59
1937	81	59	146	42	227	45	58
1938	69	39	181	49	250	46	53

4. Social Conditions of the County.

The population of the County is divided occupationally into three main categories, Industrial, Agricultural and Mining, with a marked preponderance of Industrial and Agricultural workers. The increase in the number of factories

continues and the industrial population has been augmented considerably during the year particularly in the neighbourhood of Gloucester and Bristol. This tendency is likely to continue and in the future the industrial population of the County will bear a much higher proportion in relation to other types of occupation.

There are in the County two County Boroughs, the City of Bristol and the City of Gloucester, two Municipal Boroughs, Cheltenham and Tewkesbury, six Urban Districts and fifteen Rural Districts. The population as estimated by the Registrar General mid 1938 is 343,600.

The establishment of new industries has attracted fresh numbers of workers and difficulties are being experienced in providing housing accommodation within easy reach of the factories. Moreover the provision of services presents fresh problems to local authorities which will entail considerable expenditure. Many of these problems are a matter of urgency and local authorities are already making provision to meet the extra demands.

SECTION B.

GENERAL PROVISION OF HEALTH SERVICES FOR THE AREA.

1. Laboratory Facilities.

During the year the existing arrangements with the Gloucester Royal Infirmary, Cheltenham General Hospital and the Bristol University Laboratory with regard to bacteriological and pathological work were continued. The scope of the scheme was, however, altered and extended in order to remove the necessity for private practitioners to obtain sanction for certain examinations before submitting specimens.

An arrangement was made with the Authorities of the Gloucester Royal Infirmary, the Cheltenham General Hospital and the Bristol University for the payment to each of a fixed annual sum for pathological work undertaken on behalf of the Local Authority. The amount to be paid is calculated on an average of the amounts paid during the preceding three years, with an additional sum to allow for certain extensions referred to in a later paragraph.

To obviate the possibility of unnecessary specimens being repeatedly submitted for examination and to keep the County Medical Officer in touch with health conditions in the County, a duplicate report on every specimen examined under the scheme of the Local Authority is sent to the County Medical Officer.

The following are the types of examinations which are included in the scheme:

- (1) Swabs for diphtheria.
- (2) Sputums for tuberculosis.
- (3) Serological tests for enterica, undulant fever, and food poisoning.
- (4) Blood culture for enterica and food poisoning.
- (5) Faeces and urine for enterica, dysentery and food poisoning.
- (6) C.S.F. in cases of meningitis.
- (7) Hairs for Spores.
- (8) Specimens in cases of puerperal pyrexia.

The additions to the present examinations are serological tests for food poisoning, blood culture for enterica and food poisoning and hairs for ringworm. Previous approval for these examinations is not required.

Wasserman reactions and other examinations in connection with venereal diseases are not included in this scheme and are paid for on a different basis and the same applies to examinations of samples of milk either from farms or schools.

The new arrangement has proved very satisfactory in preventing delay in examinations pending approval and in avoiding other difficulties associated with the previous scheme.

The following is a summary of the work undertaken during the year :—

						<i>No. of examinations</i>
<i>General :</i>						
Tuberculosis	...	...	...	...	...	2,781
Diphtheria	...	...	...	...	...	4,063
Enteric Fever :						
Bloods	...	...	...	...	...	136
Faeces and urine		...	...	...	...	59
Cerebro Spinal Fever		...	...	...	...	1
Puerperal Pyrexia	...	...	...	...	...	—
Other	...	...	...	...	...	17
				TOTAL	...	7,057
<i>Venereal Diseases :</i>						
Wasserman	...	...	...	...	...	459
Smears	...	...	...	...	...	459
Other	...	...	...	...	...	43
				TOTAL	...	961
GRAND TOTAL	...	...	...	...	...	8,018

The arrangement with the Gloucester Royal Infirmary, Cheltenham General Hospital and the Agricultural Advisory Office of the University of Bristol for the examination of samples of milk continued during the year. As explained in another section of this report two Milk Sampling Officers were appointed during the year and a third Officer will be appointed early in 1939. When the third Officer is appointed, arrangements will be made for a division of the samples between the laboratories at Bristol, Gloucester and Cheltenham in order that the headquarters of the Sampling Officers may correspond with the districts into which the County has been divided for this purpose.

Samples of water and sewage effluents are examined by Mr. R. H. Ellis, the County Analyst, and the arrangements were modified in September in order to encourage District Councils in the County to submit regular samples of water for examination and to allow for an increased number of samples being examined on behalf of the County Council.

Each District Council was asked to indicate how many samples of water and sewage effluents they would submit each year if the charge per sample was to be

substantially decreased and it was possible finally to guarantee the County Analyst a total of 1,000 samples per annum. The charges per sample were considerably reduced and the County Council agreed to pay to the County Analyst a retaining fee in addition to the reduced charge per sample.

This modification will result in much more regular supervision of water supplies in the districts, as one of the greatest stumbling blocks to frequent examinations of samples was the cost involved.

Reports on all samples of waters and sewage effluents examined in the County whether submitted by the District Councils or otherwise are made to the County Medical Officer who is thus kept in touch with conditions throughout the County.

2. Ambulance Facilities.

Early in the year a survey was made of the ambulance services in the County, and as a result it was possible to report to the Public Health Committee that generally speaking the County is well served by ambulances both for infectious diseases patients and for non-infectious and accident cases.

(a) *Infectious Diseases.*

There are eight ambulances in the County available for conveying patients suffering from infectious diseases to hospital, and as six of these are stationed at the Isolation Hospitals, the distribution is such as to serve the areas most efficiently.

In three instances the ambulance is owned by the Local Authority : in three by a Joint Hospital Board or Committee : of the remaining two, one is privately owned, and the other is the property of the Delancey Trust.

The fees to Local Authorities for the use of the ambulances vary in different areas, in some instances a fee is charged for the use of the ambulance in addition to mileage fees, in others only mileage charges are made. It is in this aspect of the services that some degree of uniformity would be helpful, although this might be difficult to achieve in the varying types of districts to be served.

(b) *Non-Infectious and Accident Cases.*

It is more difficult to assess the adequacy of the ambulance services for this work as there are many more factors to be taken into consideration.

The details obtained as a result of the survey showed that in every Local Authority District in the County at least one ambulance solely for non-infectious cases is available. Consideration of the various features of population, road systems and topography of the individual districts tends to the conclusion that, in theory at least, there are few villages or roads in the County that could not be reached within half-an-hour.

The following table gives the estimated distance from the most unfavourably situated part of each Local Authority District to the ambulance station named by the Authority (in response to a circular letter) as that to which application should normally be made for the conveyance of non-infectious and accident cases, also to the nearest station if differing from the designated one. The table also gives an equivalent distance to one or more alternative stations if the usual ambulance should not be available.

URBAN AREAS.

Local Authority District	Area (Acres)	Popn. (1936)	Mileage from most distant part of district to	
			Normal Base	Alternative Base
Charlton Kings ...	3,378	4,943	2 Cheltenham	2 Cheltenham (3 amb.)
Cheltenham	5,160	51,390	1 Cheltenham	1 Cheltenham (3 amb.)
Cirencester	5,583	7,921	3 Cirencester	11 Stroud or Fairford
Kingswood	1,530	14,870	5 Bristol	5 Alternative Bristol
Mangotsfield	1,530	13,120	5 Bristol	5 Alternative Bristol
Nailsworth	1,598	3,282	5 Stroud	15 Cirencester or Malmesbury
Stroud	2,726	14,033	2 Stroud	11 Gloucester
Tewkesbury	2,614	4,441	2 Tewkesbury	10 Cheltenham
	24,179	114,000		

RURAL AREAS.

Local Authority District	Area (Acres)	Popn. (1936)	Mileage from most distant part of district to	
			Normal Base	Alternative Base
Cheltenham	81,948	15,280	17 Cheltenham	17 Cheltenham (3 amb.)
Cirencester— (Eastern part) ...	82,790 }	11,830 }	7 Fairford 8 Cirencester	15 Cirencester 16 Cheltenham, Gloucester, Fairford
(Western part) ...				
Dursley— (Northern part) ...	26,639 }	13,880 }	28 Bristol 22 Bristol	11 Stroud 22 Alternative Bristol
(Southern part) ...				
East Dean	20,475	19,330	10 Cinderford	18 Gloucester
Gloucester	71,529	22,500	14 Gloucester	14 Gloucester (2 amb.)
Lydney	24,597	10,550	6 Lydney or Chepstow	14 Chepstow or Lydney
Newent— (Northern part) ...	40,345 }	7,257 }	9 Ledbury 12 Gloucester	17 Gloucester 19 Ledbury
(Southern part) ...				

RURAL AREAS—*continued.*

Local Authority District	Area (Acres)	Popn. (1936)	Mileage from most distant part of district to	
			Normal Base	Alternative Base
North Cotswold— (Northern part) ...	86,203	15,370	11 Shipston-on-Stour	20 Chipping Norton
(Eastern part) ...			12 Chipping Norton	20 Cheltenham
(Western part) ...			20 Cheltenham	20 Cheltenham (3 amb.)
Northleach— (Eastern part) ...	74,959	7,417	12 Fairford	17 Cirencester
(Western part) ...			16 Cheltenham	16 Cheltenham or Cirencester
Sodbury— (Northern part) ...	68,664	26,070	21 Bristol	21 Stroud or Alternative Bristol
(Southern part) ...			15 Bristol	15 Alternative Bristol
Stroud ...	35,038	21,480	7 Stroud	10 Gloucester or Cirencester
Tetbury ...	31,799	5,956	12 Malmesbury	14 Stroud
Thornbury— (Northern part) ...	61,337	18,370	26 Bristol	21 Gloucester
(Southern part) ...			18 Bristol	18 Alternative Bristol
Warmley ...	8,843	9,100	11 Bristol	11 Alternative Bristol
West Dean ...	24,155	17,710	—	—
	749,821	222,100		

From these figures it is evident that only in parts of the North Cotswold, the Dursley and Northern parts of Thornbury and Sodbury Rural Districts is there any locality where an ambulance station is not available within twenty miles.

An ambulance should be able to turn out and reach a point distant twenty miles in much less than an hour, and in sickness cases this should not be considered an unduly long interval. The same cannot be said for severe accident cases, although these are more frequent on main roads than in remote country districts.

In the four districts mentioned as containing points over twenty miles distant from an ambulance station, there may be reason for supplementing the existing ambulance services by stationing ambulances at key-points preferably in the vicinity of hospitals.

Other factors influencing the efficiency of the ambulance services include adequate means of communication, expenses involved, efficiency of staff and type and age of vehicles.

All the ambulance stations referred to in the table are on the telephone and there is no evidence that complaints have been received with regard to staffing or faults in the vehicles. There are, however, considerable variations in the charges made for the use of the ambulances from nil in some areas to 1/- a mile, plus, in certain cases, a "turn out" fee of up to ten shillings.

In no case is prepayment insisted upon, although in one case it is requested and in another a guarantee that the money will be forthcoming must be obtained before the patient is moved. This may result in the guarantor having to pay the fee owing to inability of the patient to meet the charge, and I have had complaints from doctors and others that they have frequently had to meet this liability on behalf of patients.

This factor is liable to militate against the full use being made of the available ambulance services, and it is worthy of consideration whether a grant from the County Council should be made in order that necessitous persons may be in a position to make use of the ambulance services, and the fee recovered according to the capacity of the patient to pay.

3. Nursing in the Home.

The County Nursing Association through its affiliated District Nursing Associations is responsible for the domiciliary nursing services in the County. The work of district nursing is paid for from the voluntary funds of the Associations, but grants are made by the County Council to each Association for the nursing of the sick poor.

Arrangements are also in force for the nursing of cases of measles in their own homes during epidemics or when circumstances appear to justify it. This work is undertaken by the District Nurses upon request from doctors and patients or from the health department.

4. Treatment Centres and Clinics.

The treatment of minor ailments is undertaken at eighteen centres throughout the County by local doctors who act as medical officers to the clinics on a six monthly rota. Certain of these centres are also used by the specialist medical staff for consultations and treatment for ear, nose and throat, eye, orthopaedic and heart conditions.

There have been no changes during the year in the number of clinics, but work has now commenced on the enlargement of the existing premises at Soundwell. When completed, this will enable the building to be used as a combined school clinic and maternity and child welfare centre.

Unfortunately many delays have occurred in connection with the plans for a combined clinic at Filton, but negotiations have now been completed and work will commence on the new building early in 1939.

5. Hospitals.

Cotswold Maternity Home and Children's Hospital.

The Hospital Committee early in the year decided owing to criticism from patients to rename this Institution, which had been known as the Council Hospital, Tetbury. The Hospital comprises ten beds for lying-in patients, six beds for ante-natal treatment, two private wards for paying patients and a children's ward of eight beds.

Since its re-opening in August, 1937, the hospital has been altered and improved in many respects and completely redecorated. New equipment has been supplied and the hospital now provides satisfactory accommodation both for maternity cases and children.

Isolation Hospitals.

Notwithstanding many conferences and both formal and informal discussions during the year on the subject of isolation hospital accommodation in the County, it has not been possible to evolve a scheme which meets with general approval.

A conference of the Rural District Councils' Association was called in the latter part of the year to consider certain proposals which may result in the formulation of a scheme which will be generally approved.

These proposals are at present under consideration by the various district councils in the County who have been asked to furnish their observations for consideration early in 1939.

Public Assistance Institutions.

There have been no developments during the year in the provision of new institutional accommodation.

It is proposed to provide accommodation in a new infirmary for patients displaced from certain institutions in the County which are scheduled for closure, and the Committee have inspected sites in the County which might be suitable for the building of such an institution.

The accommodation in certain of the Public Assistance Institutions is very unsatisfactory, and it is recommended that the Stroud Institution should be closed early in 1939 and the patients transferred to other institutions pending the establishment of a new institution in the County.

6. Poor Law Medical Out-Relief.

There have been no alterations in the constitution of the Medical Out-Relief districts during 1938.

The following change in the medical staff took place :—

Lydney District :

Dr. W. F. Fawcett succeeded Dr. E. W. Hardman.

7. Vaccination.

The districts of the Public Vaccinators in the County total 63, and those of the Vaccination Officers number 25.

The summary of the returns of the Vaccination Officers for the past five years is as follows :—

	1933	1934	1935	1936	1937
No. of Births	4,275	4,405	4,480	4,321	4,350
No. of Vaccinations ...	576	567	546	541	467
No. of insusceptibles ...	11	3	25	3	4
Conscientious objections ...	3,111	3,192	3,269	3,157	3,249
Died unvaccinated ...	167	164	136	135	132
	3,865	3,926	3,976	3,836	3,852
Postponement	45	60	57	28	26
Removals	56	91	93	106	123
Untraced	82	73	70	100	116
	183	224	220	234	265
	4,048	4,150	4,196	4,070	4,117
Not yet accounted for ...	227	255	284	251	233

8. Mental Deficiency.

(1) *Statistics and Ascertainment.*

The responsibility for the care of the mentally defective in this area is shared by three Education Authorities (Cheltenham, Gloucester City and the County), and by the Joint Committee of the County Council and Gloucester Corporation.

The number of persons on the registers of the County Education Committee and the Joint Committee at the end of 1938 was 1,391. In addition, there are 162 persons reported by Certifying Officers to be merely “dull and backward” and 292 others who are now reported to be “normal.”

The distribution of the 1,391 persons now on the register is :—

JOINT COMMITTEE.					Males	Females	Total
In Institutions (under Order)	...	...	...	...	140	138	278
On Licence	...	...	...	...	5	4	9
Guardianship (on licence)	...	...	...	...	—	2	2
Under Statutory Supervision	...	...	...	...	134	140	274
In Voluntary Homes	...	...	...	...	26	15	41
UNDER PUBLIC ASSISTANCE COMMITTEE.							
In Mental Hospitals	...	...	...	...	59	64	123
In P. A. Institutions	...	...	...	...	81	110	191
At home	...	...	...	...	41	46	87
CLASSIFIED CASES.							
No special action taken	...	...	...	...	78	60	138
NOT YET CLASSIFIED	...	...	...	...	57	70	127
EDUCATION COMMITTEE.							
Classified	...	...	...	...	61	37	98
Unclassified, awaiting full examination	...	...	...	...	12	11	23
					694	697	1391

During 1938, 135 new names were added, the sources of ascertainment being as follows :—

Children medically examined at Schools	...	...	61
From Public Assistance records	...	...	27
From Nurses	...	...	16
From other sources, Medical Attendants, etc.	...	...	31
			135

Twenty-two persons left the County and 34 died during 1938.

(2) *Institutional Accommodation.*

On 31st December, 1938, there were 287 persons under Order in Institutions, nine of whom had been granted licence. The distribution of the cases is given below :—

<i>Institutions</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>
Stoke Park Colony	78	120	198
Brentry Colony	53	—	53
St. Mary's Home, Painswick	—	2	2
Sandlebridge, Mary Dendy Home	1	1	2
Royal Earlswood	3	—	3
St. Teresa's Home	—	2	2
Ashton House, Liverpool	—	1	1
Eagle House, Mitcham	—	2	2
Cirencester, P.A.I.	—	1	1
Rampton State	10	13	23
			145
			142
			287

During the year, 28 additional cases were sent to Institutions and are included in the above summary. There have been seven deaths amongst the County cases at Stoke Park Colony and three defectives have been discharged from their Detention Orders. One case was transferred to Guardianship.

As will be seen from the table given in paragraph 2, most of the Committee's cases are sent to Stoke Park and Brentry Colonies respectively.

Members of the Committee visited in July Stoke Park and Brentry Colonies and also a Camp established by the Managers of the latter.

The Joint Committee have had under consideration the suggestion contained in the Report of the Public Assistance Officer, dated September, 1937, as to Institutional accommodation for Public Assistance mentally defective cases in the County, together with a copy of the Minutes of the Public Assistance Committee on the subject.

The Joint Committee are in agreement in principle with the suggestion that separate accommodation for mental defectives should be provided in one or more Public Institutions.

Until all the alleged mental defectives have been examined and their mentality assessed, it will not, however, be possible to indicate the accommodation which will be necessary. Steps are being taken to review all cases in Public Assistance Institutions.

Certificates of approval authorising the reception of mental defectives of specified grades and ages at the Cirencester and Stow-on-the-Wold Public Assistance Institutions were renewed by the Board of Control to the 31st March, 1939. At present there are no certified mental defectives maintained at either Institution.

(3) *Guardianship.*

The Committee have two cases under Guardianship and in both instances the girls have proved satisfactory.

(4) *Licence.*

The total number of cases on licence at the end of the year was nine.

The Committee have had under consideration a circular letter from the Board of Control intimating the decision of the Board to review the cases of all defectives who are still on licence at the end of the second year after leaving Institutions. In accordance with such circular, copies of progress reports have been forwarded to the Board of Control in all cases where the defectives have been away on licence from Institutions for the stipulated period of two years.

(5) *Supervision.*

The number of cases at present under periodic visitation in their own homes is 274, 134 males and 140 females. During the year, arrangements were made for the whole-time Health Visitors to make reports on all cases placed under supervision in their homes. Formerly many cases were under visitation by District Nurses. Reports are submitted quarterly in the great majority of cases. Where the home is good and the care and protection adequate, the Committee have agreed in certain cases to less frequent visitation.

(6) *Occupation Centres and Home Training.*

There are no occupation centres under the Committee's jurisdiction but they have renewed, until 31st March, 1939, the arrangements made in certain districts for the instruction of 18 mental defectives in their own homes. The reports received as to the progress made by such defectives continue to be satisfactory.

(7) *Voluntary Association.*

The Joint Committee are considering the desirability or otherwise, of establishing in their area, a Voluntary Association, and a draft scheme has been received from the Central Association for Mental Welfare.

(8) *General.*

The Committee have continued their usual practice of recommending Managers of Institutions to grant holiday leave to defectives in suitable cases and a considerable number were allowed such leave in the summer months.

9. Orthopaedic Treatment.

The following special report on the scheme for orthopaedic treatment in the County was submitted to the Medical Services Sub-Committee at their meeting in November, 1938.

General Outline.

The present arrangements in the County for the treatment and after-care of patients suffering from crippling defects and deformities are divided into two branches, patients suffering from surgical tuberculosis and those suffering from non-tubercular conditions.

There are three general surgeons with orthopaedic training and experience in the service of the Local Authority. Mr. Robinson and Mr. Stallman hold appointments on the staff of the Voluntary Hospitals at Cheltenham and Gloucester respectively. Mr. Chitty undertakes the work of the clinics in the neighbourhood of Bristol and is on the staff of the Bristol Royal Infirmary and the Winford Orthopaedic Hospital, Somerset. The work at the out-patients' clinics is divided between these surgeons, but Mr. Robinson is entirely responsible for the treatment of cases of surgical tuberculosis without regard to where they reside in the County.

Three orthopaedic after-care sisters are employed by the Local Authority. They undertake treatment and after-care at the clinics and at the patients' own homes where necessary.

The general administration of the service in so far as non-tubercular patients are concerned is carried out by the County Medical Officer of Health, but the Medical Officer to the Joint Board for Tuberculosis is responsible for all arrangements in connection with cases of tuberculosis.

The detailed arrangements in force for ascertainment, treatment, and after-care at clinics and in-patient treatment in hospital are set out below. They refer to patients suffering from non-tubercular conditions only. A separate note is appended with regard to the care of patients suffering from non-pulmonary tuberculosis.

Ascertainment.

Cases are referred from various sources—Child Welfare Centres (of which there are 58 in the County), Health Visitors and District Nurses, School Medical Officers, Private Doctors and voluntary sources.

The methods employed in ascertainment are the normal and usual methods and are reasonably comprehensive. It is hoped when better facilities for treatment exist to inaugurate an intensive system of ascertainment through the Local Authority's Medical and Nursing Staff, and by this means to form a judgment as to whether cases are being missed or allowed to progress to a relatively late stage of defect before being referred for treatment.

Clinics.

There are in the County sixteen treatment centres which are used for the examination and treatment of patients suffering from crippling defects. These clinics are visited by an orthopaedic surgeon once in three months when all the patients in the area served by the clinic attend for examination by the surgeon.

A weekly session is also held at each clinic when the orthopaedic after-care sister carries out whatever treatment has been prescribed by the surgeon. In addition, where necessary, she visits the homes of the patients for treatment or supervision purposes.

The clinics have only a minimum of equipment; the rooms are small and no facilities exist for plaster work.

In-patient Treatment.

This is undertaken mainly at the Cheltenham General Hospital and Gloucestershire Royal Infirmary, Mr. Robinson's patients being admitted to the former and Mr. Stallman's to the latter. Patients from the South of the County who have been under the care of Mr. Chitty are admitted to Winford Hospital.

The Cheltenham General Hospital and Gloucestershire Royal Infirmary are Voluntary Hospitals designed to admit and treat acute medical and surgical conditions, and therefore are not capable of dealing with those orthopaedic patients who require more than a short period of treatment in hospital. In neither hospital do educational facilities exist for children suffering from crippling defects.

There is considerable pressure on the beds at both of these hospitals (particularly at the Gloucestershire Royal Infirmary), and consequently the waiting lists for admission for orthopaedic patients are large and many patients have been awaiting admission for several months.

The Winford Hospital is capable of dealing with patients from Mr. Chitty's clinics, and all orthopaedic hospital school facilities are provided for patients from the area served by clinics in Mr. Chitty's area.

There are a few patients from the County in other hospitals—Wingfield Morris Hospital, Lord Mayor Treloar's Hospital, Alton—but these are exceptional.

After Care.

The after-care of patients is undertaken at the various clinics in the County and through visits to patients' own homes by the orthopaedic after-care sisters employed by the Local Authority. The various clinics are open for one session per week, when the after-care sister is in attendance, and the orthopaedic surgeon attends once per quarter.

A Voluntary Association for the care of cripples in the County is in process of formation—three district committees have already been established, and it is hoped in the future to cover the whole of the County.

Tuberculosis.

The treatment of cases of surgical tuberculosis in the County is carried out under the direction of Mr. Robinson.

In-patient treatment for these cases is undertaken at Standish House Sanatorium, and twelve beds also exist for the same purpose at Cheltenham General Hospital.

Patients requiring major surgical operations are transferred to Cheltenham General Hospital from Standish House (20 miles) for their operation and then returned to Standish House when they are sufficiently recovered.

No arrangements exist for patients suffering from surgical tuberculosis to be seen at the orthopaedic out-patient clinics in the County. Visits are paid to the homes of the patients by the orthopaedic after-care sisters and reports are made to the Tuberculosis Medical Officer. Patients may also be seen at the dispensaries in the County by the Tuberculosis Medical Officer or his assistants, and periodically arrangements are made for patients to be reviewed by the orthopaedic surgeon at Standish House.

General Comments.

It will be obvious that the orthopaedic scheme as at present constituted has many undesirable features.

Supervision of patients at clinics by the surgeons is inadequate. It is insufficient to review the treatment of many patients at three-monthly intervals, notwithstanding the fact that a trained orthopaedic sister is in charge of the patients in the interval. Although many of the patients treated are suffering from minor defects—flat feet, postural defects, etc., there is a definite proportion who require to be seen at least monthly if adequate attention is to be given to their treatment. The infrequency of the orthopaedic surgeon's sessions also leads to the presentation of large numbers of patients, sometimes as many as fifty or sixty patients requiring to be examined and have treatment prescribed at one session, and none of these will be seen again (except in emergency at the out-patients department of the Voluntary Hospital) for three months.

This particular feature of the scheme places undue responsibility upon the orthopaedic sisters who are not infrequently in a dilemma as to the treatment of some new feature of the case, or who have to make a decision as regards treatment in the interim and hope that it will be confirmed by the surgeon at his next visit.

The clinic premises generally are ill-suited to the carrying out of orthopaedic treatment. The rooms are small, the orthopaedic equipment is poor and no facilities whatever exist for plaster treatment.

The existing arrangements for in-patient treatment are such as to add very seriously to the difficulties of securing success in the treatment of patients.

It is undesirable that general hospitals should be used for in-patient orthopaedic treatment except in emergency or for cases requiring the shortest possible period of treatment. Orthopaedic treatment is a very highly specialised form of surgery and requires specialised nursing by appropriately trained staff. It is an unfortunate feature of this type of work that many of the patients will be

confined to hospital for long periods, and Voluntary General Hospitals were not designed, nor are they capable under modern conditions of attempting to deal successfully with such cases. If the patients are dealt with at all, the tendency is for them to be kept in hospital for a short period, discharged and re-admitted with problematical benefit to them or to the hospital.

It is also a fundamental necessity that those children of school age who are admitted to hospital for orthopaedic treatment should have concurrent education, and specially equipped orthopaedic hospital schools are essential for this purpose.

It is obvious, therefore, that any scheme of orthopaedic treatment which is depending upon the Voluntary General Hospital as a basis for this most important phase of the treatment is fundamentally unsound. It is fair neither to the patient nor the hospital.

The existence of a waiting list which is inseparable from use of the Voluntary General Hospitals, is detrimental to the condition of the patients. Deterioration occurs in many cases with every week of waiting and all efforts at early ascertainment are nullified if immediate admission to hospital is not available for those who require in-patient treatment.

In so far as after-care supervision is concerned, the remarks in an earlier paragraph concerning out-patient treatment apply with equal force. Patients are discharged from hospital wearing surgical appliances and apparatus, or in plaster, and frequent attention and adequate supervision is necessary if the improvement manifest in their condition is to be maintained and relapse prevented. This entails not only close supervision by the orthopaedic sisters, but frequent attention from the orthopaedic surgeon, and a quarterly visit by the surgeon is insufficient.

The fact that cases of surgical tuberculosis are not dealt with under the general arrangements for orthopaedic treatment is an unfortunate feature of the scheme. Tubercular patients from areas where the clinics are in charge of other orthopaedic surgeons are dealt with by Mr. Robinson only, and no definite arrangements are in force for systematic and periodic review of their conditions by the orthopaedic surgeon. Except for the fact that they are visited in their homes by the orthopaedic sisters, they are in fact outside the general orthopaedic scheme for the County and dealt with under entirely separate arrangements.

The general dispersion of facilities and lack of co-ordination, team work and continuity of treatment is accentuated by this factor.

PROPOSALS FOR RE-ORGANISATION OF THE SCHEME.

In formulating the following proposals for placing orthopaedic treatment in the County upon a sound basis, it is necessary to state what is the ideal scheme if sufficient funds were available to enable it to be put into operation, and to set out modified arrangements which, whilst embodying undesirable features, are the best possible, without expenditure of certain capital sums.

The two fundamental defects in the present arrangements are lack of sufficient accommodation for in-patient treatment of patients and the lack of co-ordination between the arrangements made for patients suffering from non-tubercular crippling defects and those suffering from surgical tuberculosis.

Orthopaedic Hospital.

If successful orthopaedic treatment is to be facilitated to the maximum, there is required in the County, as a basis for all arrangements, an orthopaedic hospital school which will be capable of meeting the needs of all patients for in-patient treatment.

Under present conditions approximately sixteen beds are required for the in-patient treatment of non-tubercular cripples, and approximately forty beds for surgical tuberculosis; the Local Authority would, therefore, be in a position to maintain between 50 and 60 beds at such a hospital. If a fracture unit were to be established at the hospital on the lines suggested by the Minister of Health, and if accommodation for paying patients were included it should be possible to keep a hospital of 75 beds fully occupied with cases from Gloucestershire. If an adjoining county were to participate in the arrangements for the treatment of patients from the area, it would be possible to make full use of an orthopaedic hospital with accommodation for approximately 100 patients.

The treatment of all types of crippling defects would be undertaken at this hospital which would have specially trained nursing staff, and the hospital would act as parent hospital for all orthopaedic clinics in the Counties served.

It would be possible with such a hospital to secure complete continuity of treatment for every patient, and to arrange for the necessary team work, both of which are essential features if orthopaedic treatment is to obtain its maximum efficiency and success.

Orthopaedic Surgeon.

It would be necessary with such an arrangement to obtain the services of a new orthopaedic surgeon who would act as assistant to Mr. Robinson and Mr. Stallman on the staff of the proposed hospital. He would require to be appointed as the orthopaedic surgeon to the staffs of the Cheltenham General Hospital and Gloucestershire Royal Infirmary and would co-ordinate the work of the orthopaedic hospital with that of the General Voluntary Hospitals and the out-patient clinics in the area served by the proposed orthopaedic hospital. The latter would also require to have facilities for the education of patients of school age, and to be equipped as an orthopaedic hospital school.

The new surgeon would be a specialist confining his work to orthopaedic surgery. Through the proposed re-organisation of the clinics, as set out below, he would be paid a salary (or fees per session) for his work on behalf of the local Authorities participating in the Scheme.

Out-Patient Clinics.

The work of the out-patient clinics would require to be re-organised on the basis of a monthly visit by the orthopaedic surgeon and at least one weekly session for treatment by the orthopaedic sisters. The present number of clinics is sixteen. This could be materially reduced and fewer clinics, more fully equipped, be made to serve the area.

The present out-patient orthopaedic clinics are as follows :—

<i>Clinic</i>	<i>Surgeon</i>	<i>After-Care Sister</i>
Lydney	Mr. Stallman	Miss Braeegirdle
Coleford	„	„
Cinderford	„	„
Newent	„	„
Cheltenham General Hospital ...	Mr. Robinson	Miss Rodenhurst
Chipping Campden ...	„	„
Tewkesbury	„	„
Cirencester	„	„
Fairford	„	„
Stroud	„	Miss Shepherd
Dursley	Mr. Stallman	„
Berkeley	„	„
Thornbury	Mr. Chitty	„
Wotton-under-Edge ...	—	„
Chipping Sodbury ...	Mr. Chitty	„
Soundwell	„	„

If arrangements were made for a monthly visit by the orthopaedic surgeon to each out-patient clinic, it would be possible to serve the County adequately with out-patient facilities by using only the following clinics :—Lydney, Coleford, Cinderford, Cheltenham General Hospital, Chipping Campden, Cirencester, Stroud, Dursley, Chipping Sodbury, Soundwell, Filton.

After-Care.

The objections to the present arrangements for after-care of non-tubercular patients would largely disappear with more frequent visits by surgeons to out-patient clinics. The present system of following up of such patients in their own homes appears to be adequate.

In order to obtain the maximum efficiency from the scheme, it will be necessary to include the after-care of patients suffering from non-pulmonary tubercular conditions in the general orthopaedic scheme. They will require to be referred to the out-patient clinics for supervision, etc., in the same way as other orthopaedic patients discharged from hospital. The whole machinery of the orthopaedic scheme is devised to include these tubercular patients and so long as they remain outside the scheme it cannot be said to be complete.

The altered arrangements may be summarised as comprising :—

- (a) Adequate arrangements for early ascertainment.
- (b) A central orthopaedic hospital school with sufficient beds to serve the Gloucestershire and adjoining areas.
- (c) A series of out-patient clinics working in immediate co-operation with the orthopaedic hospital.
- (d) Adequate arrangements for after-care.
- (e) The staffing of the hospital and clinics with a team of skilled orthopaedic surgeons and fully trained orthopaedic nursing staff.
- (f) The inclusion of all types of cases (tubercular and non-tubercular) in the orthopaedic scheme.

This is the ideal scheme, but unfortunately, it depends in its main essential upon the provision of an orthopaedic hospital school which would involve such capital expenditure as to render it impracticable. If such a hospital had been available, or if funds permitted its establishment, it would be possible to place the orthopaedic work of this area upon a completely sound basis and the present handicaps and delays in treatment would disappear and, with them, a great deal of chronic crippling amongst the local population.

MODIFIED SCHEME.

Without the corner stone of an orthopaedic hospital school for the area, the whole edifice is of course bound to be structurally unsound, but it is possible still to obviate many of the gross defects in the present structure of the scheme.

The delay in securing admission of patients to hospital is due very largely to the fact that they are being treated in Voluntary General Hospitals. If, therefore, it were possible to base the scheme on orthopaedic hospitals outside the area and beds were available in such hospitals, this delay could be overcome. The Winford and Wingfield Morris Hospitals immediately suggest themselves as possibilities in this connection. The use of these hospitals would ensure that long stay patients would be treated in orthopaedic hospital schools and nursed by specialised staff. Certain obvious disadvantages would remain, in that the necessary team work and the essential co-ordination in treatment between out-patient clinic and hospital would be absent and the existing anomaly of separate accommodation for non-tubercular cases would persist.

The County would require to be divided into two areas, a Southern area based on Winford and a Northern area based on the Wingfield Morris Hospital, and all patients requiring in-patient treatment, except of the shortest duration, would be admitted to one or other of these hospitals. It does not appear practicable to try to secure co-ordination by appointing the present orthopaedic surgeons to the staffs of these hospitals, as they are situated so far from the areas served by them, but it might be possible to secure a certain measure of co-ordination if the proposed new orthopaedic surgeon were to act as a link between the out-patient clinics, the voluntary hospitals in Gloucester and Cheltenham, and the orthopaedic hospitals at Winford and Oxford. Whether this is humanly possible is a debatable point, as the following up of cases and the provision of treatment over such a wide area and in so varied a number of centres would appear to be more than it was possible for one person to accomplish.

The remainder of the scheme as outlined could be put into effect if this modified basis were possible of achievement.

With fewer clinics, more frequent visits by the orthopaedic surgeons and arrangements for after-care for tubercular cases at the County Clinics, there would be a definite improvement of existing conditions and an intermediate type of scheme could be brought into existence which would automatically emerge into an ideal scheme if the miracle of a central orthopaedic hospital school for the area ever materialised.

The following is the report of the Minor Committee appointed to consider the proposals contained in the foregoing report.

At their Meeting on 7th November, 1938, the Medical Services Sub-Committee appointed a Minor Committee to consider the proposals contained in the report of the County Medical Officer of Health for the re-organisation of the Scheme for Orthopaedic Treatment. The Minor Committee have held three Meetings and at one of them, two of the three Orthopaedic Surgeons—Mr. Robinson and Mr. Stallman—attended. Very careful consideration has been given to the proposals outlined by the County Medical Officer of Health, and the Minor Committee report as follows :—

(1) *Ascertainment.*

The Committee are satisfied that the methods employed in the ascertainment of cases are reasonably comprehensive.

(2) *Out-Patient Clinics.*

The Committee are of the opinion that quarterly visits by the Surgeons are sufficient for a great proportion of the cases, but that for a certain number, more frequent supervision is desirable. It is suggested that the latter group of cases should be examined by the Orthopaedic Surgeons at intervals of six weeks. This arrangement would ensure continuity of treatment.

In order to facilitate the work of the Orthopaedic Sisters the Committee recommend that the following Clinics should be equipped so that plaster and remedial work can be carried out :—

Coleford
Cinderford
Cirencester
Dursley
Soundwell
Filton (when available)

(3) *In-Patient Treatment.*

The arrangements under this heading have been the subject of very careful consideration. Various Schemes have been reviewed and in particular the development of the Cheltenham Children's Hospital to include facilities for Orthopaedic Treatment, a step in which the Hospital Authority would have been prepared to co-operate.

It was felt that definite arrangements of this nature with the Cheltenham Children's Hospital would militate against the provision of a County or regional Orthopaedic Hospital, and it is recommended that no change should be made in the existing arrangements for in-patient treatment with Hospitals in the County.

It is very desirable, however, that children who require long periods of treatment should be admitted to either the Winford or Wingfield-Morris Orthopaedic Hospitals where they can receive combined treatment and education.

(4) *Orthopaedic Hospital.*

The Committee recognise that the ideal orthopaedic scheme must include a Hospital School to serve the area, established either by one Authority, a combination of Authorities, or on a voluntary basis, but they realise that this could only be seriously considered in the distant future.

(5) *Tuberculosis.*

The Committee have considered a Memorandum by the Tuberculosis Officer on the arrangements for treatment of cases of surgical tuberculosis in the County.

In order to secure closer co-operation between the tuberculosis and non-tuberculosis services, the Joint Board for Tuberculosis propose to approach the Gloucestershire Royal Infirmary again as to the possibility of their accepting patients who require major operative treatment.

This arrangement would open the way for Mr. Stallman to follow-up the cases into Standish House in the same way as is done by Mr. Robinson for cases which are treated in the Cheltenham General Hospital.

REPORTS BY ORTHOPAEDIC SURGEONS.

The reports on the work during the year by the Orthopaedic Surgeons are as follows :—

BRISTOL AREA—Mr. HUBERT CHITTY.

During the past year quarterly visits have been paid to the Out-Stations at Soundwell, Chipping Sodbury and Thornbury.

The number of patients attending these stations shows a considerable increase over that of previous years, and more have required admission to hospital.

Where the treatment called for has been of short duration children have usually been admitted to the Bristol Royal Infirmary; while the more chronic cases have gone to the Winford Orthopaedic Hospital.

The great majority of the last have been suffering from spastic paralysis or from anterior poliomyelitis (infantile paralysis). In almost all cases the children have benefited greatly from their stay in hospital.

An analysis of the cases follows :—

						<i>Boys</i>	<i>Girls</i>
Up to	1 year	...	...	...	...	3	—
„	2 years	...	...	...	...	8	8
„	3 „	...	...	...	...	6	11
„	4 „	...	...	...	...	5	7
„	5 „	...	...	...	...	4	7
„	6 „	...	...	...	...	7	3
„	7 „	...	...	...	...	8	5
„	8 „	...	...	...	...	7	7
„	9 „	...	...	...	...	9	10
„	10 „	...	...	...	...	11	11
„	11 „	...	...	...	...	9	6
„	12 „	...	...	...	...	7	14
„	13 „	...	...	...	...	9	9
„	14 „	...	...	...	...	7	11
„	15 „	...	...	...	...	1	5
„	16 „	...	...	...	...	3	5
„	17 „	...	...	...	...	3	1
						107	120

*Conditions :**Paralytic :*

Poliomyelitis	...	...	...	...	10	4
Spastic Paralysis	...	...	...	...	5	4

<i>Rickets</i>	...	...	...	...	5	3
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Spine :

Scoliosis	...	...	...	...	13	17
Kyphosis	...	...	...	...	3	8
Lordosis	...	...	...	...	1	4
Others	...	...	...	...	—	1

Hip Joints :

Congenital dislocation	...	...	...	...	—	2
Petthe's Disease	...	...	...	...	1	—
Coxa Vara	...	...	...	...	—	—
Others	...	...	...	...	—	—

Knees and Legs :

Bow legs	...	...	...	...	6	6
Knock knees	...	...	...	...	14	29
Others	...	...	...	...	1	1

Feet :

Flat foot	...	...	...	...	24	17
Club foot	...	...	...	...	5	2
Pes Cavus	...	...	...	...	—	2
Hammer toes	...	...	...	...	2	6
Others	...	...	...	...	3	6
Hare-lip and Cleft Palate	...	...	...	...	1	2
Osteomyelitis	...	...	...	...	2	1
Torticollis	...	...	...	...	1	3
Spina Bifida	...	...	...	...	3	—
Sundries	...	...	...	...	7	2

107	120
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As usual I have to thank Miss Shepherd for the efficient manner in which she organises the Out-Patient Clinics and for her skilful treatment of the children under her care.

CHELTENHAM AREA—Mr. J. S. ROBINSON.

The Orthopaedic work has been carried out in this area of the County on the same lines as in previous years, and the numbers attending the various Hospitals and Out-stations remain more or less constant. There has been no marked increase in the number of cases of Infantile Paralysis—a matter for satisfaction, whilst those undergoing treatment have made satisfactory progress. Deformities of the feet form quite a large percentage of the cases treated, *e.g.*, 213 Flat Feet out of a total of 534 cases; but the treatment of flat feet is very important if disabling and painful conditions of the feet are not to occur in later life—a condition detrimental from the wage earner's point of view. The neglect of such cases may result in a spastic condition of the feet, for later on operative procedures may have to be taken for their relief. Fewer cases of severe knock-

knee are now met with, as early palliative treatment corrects these. Treatment consists of manipulation coupled, if necessary, with knock-knee irons which can be worn while the child attends school. Similarly bow-legs respond well to manipulation and ambulatory splintage, so that the necessary treatment is carried out without interfering, in the great majority of cases, with the education of the children.

The value of remedial exercises given for Scoliosis, by our Orthopaedic Sisters in the massage Department at the various Hospitals has been definitely established in the quality of the results obtained, whilst the benefit to the general health of those treated is marked. Cases which present definite difficulties are those of Little's Disease (spastic paralysis), but if the results are slow, nevertheless every effort should and must be made to give them adequate treatment, as the mental condition improves as the muscle control of the limbs improves. Some cases of this type are border line cases, but treatment must not be denied to them until it has been definitely established that good is not likely to occur.

In-Patient Treatment at the Cheltenham General and Eye Hospital.

Twenty-nine patients have had in-patient treatment at the Hospital and operative treatment has been carried out to correct and stabilise paralysed feet, wrenchings and tenotomies in addition to tendon transplantations to correct claw feet, whilst other cases have had operations for Torticollis with the usual post-operative remedial treatment, which plays a large part in this branch of Surgery.

Analysis of cases treated at the Out-stations etc., and Hospitals.

						<i>Boys</i>	<i>Girls</i>
Up to 1 year ...	...	...	...	...	...	1	3
Between 1 and 2 years	...	...	...	...	...	10	13
„ 2 and 5 „	...	...	...	...	...	53	35
„ 5 and 10 „	...	...	...	...	...	107	73
„ 10 and 17 „	...	...	...	...	...	106	133

The sex incidence shows a small increase in the number of boys as compared with girls treated—277 boys and 257 girls.

The following is a brief summary of the type of cases treated.

						<i>Boys</i>	<i>Girls</i>
Infantile Paralysis	...	...	...	...	...	19	11
Little's Disease	...	...	...	...	...	2	6
Scoliosis	...	...	...	...	...	11	17
Congenital dislocation of Hip	...	...	...	...	...	4	6
Perthe's Disease	...	...	...	...	...	3	1
Bow-legs	...	...	...	...	...	23	13
Knock-knees	...	...	...	...	...	44	26
Feet, Flat	...	...	...	...	...	107	106
Club Feet	...	...	...	...	...	13	4
Claw Feet	...	...	...	...	...	8	9
Torticollis	...	...	...	...	...	4	3

I cannot conclude this short report of the year's work without expressing the hope that every effort will be made to enable the Orthopaedic Surgeons in this

County to treat their cases in continuity, and that it will be unnecessary to send any cases away for treatment out of the County. Facilities do, I am sure, exist and I hope 'ere long will be made use of.

I would like to express my hearty thanks to all those who have helped me with this work during the year, especially to the Orthopaedic Sisters who have done their work with skill and enthusiasm, and also shown much tact in their dealing with the parents. The help given by the Matrons of the various Hospitals visited, also by the Nurses and members of the Voluntary Aid Detachments is here cordially acknowledged. To the Nursing and Orthopaedic Staff of the Cheltenham General Hospital my thanks are equally due.

GLOUCESTER AREA—MR. J. F. H. STALLMAN.

There has been no alteration in the general working of the Orthopaedic service during 1938. A new Clinic has been opened at Dursley, and the numbers attending have already grown and this promises to be quite a large Clinic in the future. Except in the case of the Berkeley and Newent Clinics, the numbers attending the Clinics have grown considerably, so much so that it is difficult to cope with the number of children attending the Coleford and Cinderford Clinics in one session each, and it would appear to be necessary to divide the numbers up so that two visits are paid each quarter, as has obtained at the Lydney Clinic for some years.

Summary of Main Cases.

<i>Conditions</i>					<i>Boys</i>	<i>Girls</i>
<i>Paralytic :</i>						
Infantile paralysis	...	...	...	...	13	15
Little's disease	...	...	...	...	11	11
Erb's paralysis	...	...	...	...	2	1
<i>Spine :</i>						
Scoliosis, postural and structural	...	...	...	...	10	19
Other postural deformities	...	...	...	...	4	9
<i>Hip Joints :</i>						
Congenital dislocation	...	...	...	...	—	2
Perthe's disease	...	...	...	...	1	—
<i>Knees and legs, rickety deformities.</i>						
Bow legs	...	...	...	...	16	17
Knock knees	...	...	...	...	34	20
Others	...	...	...	...	5	8
<i>Feet :</i>						
Flat foot	...	...	...	...	86	99
Club foot	...	...	...	...	9	4
Pes Cavus	...	...	...	...	8	14
Hammer toes	...	...	...	...	7	11
Hallux Valgus	...	...	...	...	—	8
Torticollis	...	...	...	...	5	4

The total increase over last year of children attending the Clinics is 30 boys and 18 girls. On the whole defects are brought to the Clinics in their early stages,

but there has been a slight increase in the number of cases of anterior-poliomyelitis; this has not been due to a recent outbreak, but to old cases that have been brought to light.

An attempt has been made by the Orthopaedic Sisters to do some of the minor work, such as the application of plasters and their re-application in the Out-Station Clinics, and this has shown considerable success and has relieved some of the work at the Royal Infirmary and has obviated the necessity for cases travelling to and from the Royal Infirmary and waiting until they can be dealt with, sometimes a considerable time owing to the congestion of the work there.

There are a considerable number of cases that would be better treated as long stay cases in educational Orthopaedic Hospitals owing to the nature of their defects, and in many cases owing to the distance which has to be travelled to and from school, and also in some cases owing to unsuitable home conditions. Numbers of cases go for long periods without attending school, and one case has come to notice who has reached the age of 13 years without ever having been to school.

There have been 5 admissions to the Royal Infirmary and 24 to the Children's Hospital. A few cases have made a very long stay in the Children's Hospital and this is in the most part on account of bad home conditions. The results of operative and manipulative treatment have been very gratifying.

I wish again to express my great appreciation and thanks to the skilful help of the Orthopaedic Sisters, who put in a great deal of time and hard work and who take a very keen interest in the work, without which the success of the Orthopaedic service would not be possible. They often have to work under considerable difficulties, and owing to the territory they have to cover and the numbers of children they have to deal with, the amount of treatment given must of necessity be limited. The good results they obtain therefore redound all the more to their credit.

We are also very grateful to the ladies of the V.A.D. who assist us at the Clinics, and to the Authorities of the various local Hospitals for the facilities they give us. I also wish to record my appreciation and thanks to Miss P. Fraser for her invaluable help in obtaining suitable training and work for many crippled children. I also wish to express my thanks to the local practitioners for their unvarying co-operation and interest which so much helps towards the success of the Service.

SECTION C.

INFECTIOUS DISEASES.

The arrangements for the notification of infectious diseases from schools were altered as from the 1st January, 1938. Previously teachers were asked to notify weekly all cases of infectious diseases occurring in their Schools but "nil" returns were not required. This resulted in frequent omissions and it was evident from the returns received that only a proportion of the number of cases of infectious disease occurring in the schools of the County was in fact being notified.

The new arrangement requires a weekly return from each school whether cases of infectious disease have occurred or not and as a result the numbers notified have shown an almost one hundred per cent. increase.

All private practitioners in the County receive a weekly return showing the numbers of cases of infectious disease notified from each District in the County, together with a statement showing undue prevalence in any district of non-notifiable infectious disease received from the school returns. This weekly statement is of value in keeping doctors in touch with the incidence of infectious diseases in the County, and is an aid to diagnosis in doubtful cases. The weekly return, marked confidential, is also available on request to Headmasters or Headmistresses of private boarding schools.

District Medical Officers of Health are also notified of the numbers of cases of infectious diseases occurring in the Schools in their areas.

The notifications of infectious diseases received during the year show that there has been a serious increase in the number of cases of Diphtheria in the County, the total number of notifications received during the year amounting to 378 as compared with 206 last year and 145 during 1936. There has also been a rise in the number of cases of Scarlet Fever from 578 in 1937 to 611 this year.

The returns of infectious diseases received from the schools show that there was an undue prevalence of Measles in the early months of the year, whilst Mumps and Chicken Pox showed a high incidence at the beginning of the year which gradually decreased but again showed some rise towards the latter part of the year.

The number of schools closed owing to the prevalence of infectious disease was three. All were closed on the recommendation of the District Medical Officer of Health with the approval of the School Medical Officer. The reasons for closure were in one case the prevalence of Scarlet Fever and, in the remaining two, Measles.

The number of certificates of low attendance issued owing to infectious diseases was 50. The certificates covered 126 weeks compared with 265 weeks in the previous year.

The following are the details as to the incidence and districts affected together with the mortality figures for the various types of infectious diseases :—

1. Diphtheria.

The number of cases of Diphtheria notified was 378 an increase of 172 cases over last year. The number notified from urban areas was 234 and from rural areas 144.

The greatest number of cases occurred during the fourth quarter of the year (135 cases) although there was a relatively high incidence during the first quarter.

The districts mainly affected were the Borough of Cheltenham, 179 cases in comparison with 18 during the previous year, Kingswood Urban District 30 cases, Dursley Rural District 30 cases and West Dean Rural District 24 cases.

The number of deaths recorded as due to Diphtheria was 18 as compared with eight last year.

Arrangements are in force in certain districts for artificial immunisation against Diphtheria but in November the County Council approved of a comprehensive scheme to be applied, with the approval of the various district councils, to the whole County.

The following are the details of the scheme :—

IMMUNISATION AGAINST DIPHTHERIA.

In certain areas of the County the District Councils have established schemes for the immunisation of children against diphtheria. The procedure which is followed is for the children to be immunised by private practitioners to whom a fee of 5s. 0d. is paid for each child immunised.

The methods employed in the actual immunisation vary in different districts, in some the immunising material recommended requires one or two injections, and in others where different materials are used it is necessary to give three injections. The material is supplied free to the practitioners.

Schemes for immunisation on these lines are at present in force in the following areas :—

<i>District</i>	<i>Material Employed</i>	<i>No. of doses</i>	<i>Fees</i>	
			s.	d.
Borough of Tewkesbury	A.P.T.	One	5	0
Gloucester R.D. ...				
Newent R.D. ...				
Sodbury R.D. ...	T.A.F.	Three	5	0
Charlton Kings U.D. ...				
Cheltenham R.D. ...				
North Cotswold R.D. ...	or T.A.F.	Three	5	0
East Dean R.D. ...				
West Dean R.D. ...				
Lydney R.D. ...	A.P.T.	Two	5	0
Dursley R.D. ...				
Thornbury R.D. ...				
	T.A.F.	Three	5	0

It will be seen that facilities exist for immunisation against diphtheria in many parts of the County, but the methods employed differ in various districts. It is, therefore, possible that the same practitioners may be required to give one patient one or two injections because the child lives in one district and three injections in the case of a child from a different area.

The response to the facilities offered has been variable, but could probably be improved upon in all areas.

It is suggested that to deal with this important branch of Public Health work in the County it is desirable to try to establish a uniform County Scheme which would benefit not only children of pre-school age, but would be applied also to school children. The proposed Scheme would be carried out on the following lines :—

Children under Five Years.

Immunisation against diphtheria would be made available to all children in the County between nine months and five years of age through private practitioners. A fee of 5s. 0d. would be paid by the County Council to practitioners for each child immunised.

The immunisation material to be used would be Alum Precipitated Toxoid which would be given in two injections, the first injection of 0.1 c.c. to be followed within four weeks by a second injection of 0.5 c.c. The material to be used would be supplied by the District Council in whose area the child resides. (In practice the material would be obtained by the County Council Health Department and charged to the respective District Councils according to the number of children immunised from each area.)

School Children.

In the case of school children it is suggested that a limited scheme of immunisation should be commenced on the following lines:—

The work should be undertaken by the Assistant School Medical Officers and carried out either at the School or at a school clinic if conveniently situated. The immunisation material to be used would be the same as in the case of the pre-school children and the procedure would be similar except that in children over eight years of age a preliminary Schick Test should be carried out and only those who are Schick positive should be immunised.

The cost of the immunisation materials would again be charged to the Local Authority in whose area the immunised children reside.

It is proposed that this phase of the Scheme should proceed by stages and that a beginning should be made on the Schools adjacent to Bristol. A complete immunisation scheme is in force in Bristol and requests have been received from parents residing in country areas adjacent to Bristol to have their children immunised. It is anticipated, therefore, that a satisfactory response would be received in these schools.

The scheme might then be extended to schools in the vicinity of Gloucester and Cheltenham and in other urban districts in the County, and, if the time of the staff can be made available for the purpose, eventually to all schools in the County.

Concurrent with the provision of these facilities propaganda would be undertaken by means of public meetings where the "Diphtheria Film" would be shown, by talks at Child Welfare Centres, and by distribution of pamphlets to parents through the Schools, Child Welfare Centres, etc.

The number of cases of Diphtheria notified in the County during the year 1937, was 206 and there were eight deaths. The disease has again been prevalent in the County during the current year and 378 cases have been notified.

Considerable success has followed schemes of Diphtheria immunisation in many areas, depending to a great extent upon the response received to the facilities offered. Without a comprehensive scheme and energetic measures directed towards bringing it to the notice of the public, little reduction in the incidence of Diphtheria can be expected. Protection for the individual can be afforded by

any scheme, but a definite reduction in the incidence of this disease can only be hoped for by a vigorous campaign throughout the whole area with a high percentage rate of acceptance, and a resultant high degree of immunity amongst the child population.

2. Scarlet Fever.

The total number of notifications of Scarlet Fever in the County during 1938 was 611 as compared with 578 during the previous year. These cases were distributed between urban and rural districts as follows—urban 267, rural 344.

The greatest number of notifications was received during the first quarter of the year when 193 cases were reported.

The districts most affected were:—Cheltenham Borough (96), Sodbury Rural District (63), Kingswood Urban District (63), Dursley Rural District (50), West Dean Rural District (48).

The number of deaths from Scarlet Fever was one as compared with three last year.

3. Measles.

The returns of infectious diseases from the schools show that there was a high incidence during the early part of the year and it was necessary to close two schools on account of the prevalence of this disease.

Certificates of reduced attendance were issued in respect of 28 schools owing to prevalence of Measles.

4. Influenza.

The year 1938 appears to have been free from the occurrence of Influenza in severe epidemic form. Certificates of reduced attendance were issued to five schools owing to this disease but no closures were necessary.

5. Pneumonia.

The number of cases of Pneumonia notified was 377, an increase of 105 on the figure for the previous year. The greatest number of cases occurred during the first quarter of the year, and of the total number 297 cases occurred in the rural districts.

The areas mainly affected were, Sodbury Rural District (71), Borough of Cheltenham (45), Gloucester Rural District (37).

6. Gastro Intestinal Diseases.

The number of cases of Enteric Fever notified during the year was nine as compared with six last year. Three cases occurred in urban areas and six in rural districts.

Thirty-six cases of dysentery were notified and where pathological investigation was undertaken the cases were found to be of the Sonne type.

7. Diseases of the Central Nervous System.

The number of cases of Anterior Poliomyelitis notified was eight and two cases of Polioencephalitis. These cases occurred in various parts of the County and were sporadic in character.

Three notifications of Encephalitis Lethargica were received. One case occurred in the Borough of Cheltenham, one in Dursley Rural District and one in North Cotswold Rural District.

The number of cases of Cerebro Spinal Fever was four, one in Cheltenham Borough, one in Cheltenham Rural District, one in Dursley Rural District, and one in Sodbury Rural District.

SECTION D.

SANITARY CIRCUMSTANCES OF THE COUNTY.

This section of the Annual Report, outlining the salient points which have arisen during the year, or which require annual recording, of the Sanitary and Environmental circumstances of the County has been compiled on the same lines as last year, with the addition of notes regarding Inspection of Shops and Offices, and Bug Eradication, while the section on Housing has been re-arranged.

The report has been compiled from information given by District Medical Officers of Health and Sanitary Inspectors, and also from observations and special reports made by members of the Health Department of the County Council.

1. Analysis of Samples of Drinking and River Waters, Sewage and Sewage Effluent.

In the course of the year a County Scheme was formulated for the examination of samples of water, sewage effluents etc., whereby the fee payable to the County Analyst by the Local Authorities submitting samples has been substantially reduced, providing a certain quota of samples are sent each year.

Although in the case of most water supplies full examinations consisting of both chemical and bacteriological analyses should be made at least once, preferably twice, a year (in Summer and Winter), and on special occasions, as for instance prior to a Ministry of Health Inquiry—modified examinations, usually consisting of a simple bacteriological analysis only, are sufficient for the more frequent intermediate examinations.

Arrangements were therefore made for separate scales of charges for full and for modified examinations of waters and sewage or sewage effluents.

The scheme was instituted in the hope that it would stimulate the taking of a sufficient number of samples annually to satisfy the requirements of public health, particularly in relation to water supplies.

All the District Councils were invited to participate in the scheme, and those that agreed to do so, and submit a certain quota (varying with the size, type and needs of the district) of samples, comprised the Nailsworth and Stroud Urban, and the Cheltenham, Cirencester, Gloucester, Newent, North Cotswold, Northleach, Tetbury, Thornbury and West Dean Rural, Districts.

2. Water Supplies.

The year has been one of some activity in the development of rural water supplies. Considerable extensions and improvements have been made or are intended, and in the case of most of the parishes that have been mentioned in previous Annual Reports in respect of their defective or polluted water supplies, schemes to provide satisfactory piped supplies are in course of preparation if not fulfilled.

The particulars relating to each district are as follows :—

URBAN DISTRICTS.

Charlton Kings. The piped water supply to the district, from the Cheltenham Corporation supply, has been satisfactory in quality, and no shortage was experienced, but the district will in future share in the benefits that will accrue from the Cheltenham and Gloucester Joint Water Boards, etc., Act.

There were 46 new connections to the public supply during the year, but there are still 226 houses unconnected. A few of these are isolated farms, some having private piped supplies, and cottages, but the majority are small houses in the old congested part of the district and rely on wells. Most of the wells are badly sited and inadequately protected against contamination, and in a number of cases the owners have been requested to connect to the public supply.

No samples of the water from the piped Cheltenham supply required to be taken independently of those taken by the Corporation, but six wells were sampled in Charlton Kings.

Cheltenham. Work has now been commenced on the new scheme formulated under the Cheltenham and Gloucester Joint Water Boards, etc., Act, and is expected to be completed in about 18 months.

The existing supply, however, was considered satisfactory in quality and quantity for present needs during the year.

Samples taken and analysed during the year numbered 86, and in addition 163 analyses were carried out at the Tewkesbury works.

Cirencester. The new bore-hole supply at Baunton is now partially in use. Mains have been extended at Chesterton Lane, Siddington Road, Gloucester Road and Cheltenham Road, and 122 new connections were made.

From this main supply, samples for full chemical and bacteriological examination were taken twice during the year; also samples for bacteriological examination only were examined every two months. The supply was plentiful and of good quality.

In addition, eight samples were taken from private wells. The first move to take advantage of the Urban District Council's offer to share the plentiful and excellent new artesian supply at Baunton with other authorities has been made, the Cirencester Rural District Council proposing to lay mains to the parishes of Siddington, Somerford Keynes and South Cerney.

Kingswood. The mains operated in this district by the West Gloucestershire Water Company, have been extended by 572 yards, and 582 yards of new main have also been laid to replace older ones. The Company regularly sample the water, and chlorination is practised, the supply being of good quality. All employees of the

Water Company are medically examined. Some private sources still exist in the Urban District, and six samples were taken from these during the year, some steps having to be taken to deal with pollution.

Mangotsfield. The West Gloucestershire Water Company operates also in this district. There have been some extensions of mains for new building development, and 131 new connections made. The presence of crustaceae in certain lengths of mains has necessitated sterilization of these lengths by chlorination.

Nailsworth. In order to increase pressure in the elevated portions of the district, and reduce it in the more low lying, new or replacement mains, to be used in conjunction with pressure valves, have been laid in Watledge, Dunkirk, Forest Green, Old Horsley Road and Butchers Hill Lane.

No samples were taken by the District Council, but the supply is stated to be adequate and of good quality. A new private source of supply has been brought into use at Shortwood.

Stroud. The great majority of houses in the Urban District obtain their water supply from mains operated by the Council's Water Undertaking, and 46 new connections have been made. In addition to the samples regularly taken by the Company, further samples for bacteriological examinations have been taken by the District Council's Officers, who also regularly inspect the chlorination plants, etc. The supply has been adequate and of good quality.

Tewkesbury. The mains have been extended during the year a distance of 144 yards to the new housing estate at Highperry Hill and 130 yards to that at Hollans Road, 68 new connections being made in the district.

The main supplies were adequate and satisfactory in quality, frequent analysis being carried out by the resident chemist at Tewkesbury Water Works. Some well supplies were found unsatisfactory, four samples having been taken, only one of which was satisfactory. The owners of some of the remainder are connecting to the mains and abandoning the polluted wells.

RURAL DISTRICTS.

Cheltenham. The District Council are proposing to acquire the private water supply to Toddington parish, supplying 115 houses, the railway company, a fruit canning factory and fruit farms. A public inquiry has been held and if the Ministry of Health approve, the purchase of the supply by the Council will allow subsequent linking up with other systems, for example, Winchcombe and Alderton, and the formation of a comprehensive scheme, with benefit to all consumers in this part of the district.

In other parts of the district, new lengths of mains have been laid at Shut-honger, Bishops Cleeve and to new housing estates at Winchcombe and Alderton. New connections during the year numbered 156.

Shortage of water was experienced at Birdlip during the summer drought and during August, September and October water had to be carted to the village. A scheme to provide a new source for the Birdlip piped supply is now under consideration.

During the year 30 samples were taken, those relating to public supplies being satisfactory. Under the new County Council scheme, the District Council promise to take 100 samples annually.

Cirencester. A new source of public supply has been acquired by the Council, who have purchased from the owners of the Marsden Estate the private supply which served the Estate and Woodmancote hamlet. The Council have since carried out work to protect the source and improve pumping.

The Fairford supply owned by the Fairford Estate, has been extended. Mains of the Cirencester Urban District Council have been extended into the Rural District parish of Baunton, where the Urban District Council have the statutory right to supply water.

A main supply, deriving its water from the new artesian source at Baunton through the Urban District Council mains, is proposed for the parishes of Siddington, South Cerney, Somerford Keynes and possibly Poole Keynes.

Only 12 new connections were, however, made in the Rural District during the year.

During the year, no shortage was experienced in any of the public piped supplies, but some shortage occurred at the small individual sources, the village spring at Duntisbourne Abbots completely failing in September.

Measures taken to ensure the purity of the supplies consisted of frequent inspections of the sources and areas surrounding them, and twenty samples taken from public and private supplies for analysis ; two from public and two from private supplies being found unsatisfactory.

East Dean. During the year the Rural District Council acquired the Blaisdon water supply. Six samples were taken from the spring source and reservoir for this supply, and measures taken to protect the source from pollution. Six samples were also taken from the Mitcheldean supply, and a chlorination plant is now to be installed.

Dursley. Schemes for bringing a piped supply to North Nibley and to Nympsfield are still under consideration. A Ministry of Health Inquiry in connection with the latter scheme has been held since the termination of the year. Shortage of water at both these parishes was experienced. No extensions to existing mains have been made, but 204 houses were newly connected during the year. Thirty-nine samples in all were taken and submitted for analysis, those from main supplies, taken from sources or from taps, all being satisfactory.

Gloucester. Of the water supplies in the Rural District, namely the Gloucester Corporation, Stroud and Newnham main supplies, together with wells and springs the Stroud Water Company supply has been satisfactory in quality and quantity, the Gloucester Corporation supply was reduced in the Summer, while the Newnham supply suffered considerable shortage and was cut off for from 9 to 15 hours per 24 hours. In addition, the latter water supply showed two out of four samples unsatisfactory under chemical and four out of six under bacteriological analysis.

Well supplies are almost all bad, 17 out of 22 chemical and 25 out of 34 bacteriological analyses during the year being unsatisfactory, while shortage was also experienced in some parishes.

Short extensions to mains have been made at Longford, Churchdown, Hucclecote, Barnwood and Ermin Park Estate. New connections numbered 316.

Lydney. No new sources of public supply were brought into use during the year, but there have been small extensions of existing mains from Lydney. There were 69 new connections to the Lydney and 12 to the Chepstow mains—both these public supplies were satisfactory in quality and quantity. From all supplies 16 samples were taken and as the result of unsatisfactory reports on analysis three private wells were closed.

Newent. Minor extensions to the Gloucester City mains were made on the Scarr Estate, and of the Newent Mains to Tythings Estate and Bradford Lane, 30 new connections being made.

From main supplies, 102 samples were taken, and from wells 10, of which 8 were unsatisfactory. The Gloucester Corporation, Malvern Urban District Council and Ecclesiastical Commissioners main supplies were generally satisfactory, but well supplies are of doubtful quality throughout the district. At Dymock particularly, bad conditions exist, all water analyses taken in the village during the year showing sewage pollution. The present sewer is piped for only about one third of its length, thereafter running in a covered stone or brick gout, discharging untreated into a small tributary of the River Leadon.

The Council are, however, discussing with the Gloucester City Corporation an extension of its mains to Dymock, and are also considering the provision of a new sewer and of treatment works.

North Cotswold. Work on the new £80,000 Comprehensive Water Scheme is well in hand, the supply being already available at Chipping Campden, Stow-on-the-Wold, Rissington Aerodrome and Bourton-on-the-Water. While work is still in progress the County Analyst is directing the sterilizing of the mains and the safeguarding of the supply.

Existing mains have been extended at Moreton-in-Marsh. In the whole district 95 new connections were made.

Under the new County Scheme the District agreed to take 100 samples per annum, and during the year, for only part of which the scheme operated, 95 samples were taken, action being taken in the case of all that were unsatisfactory. In particular, at Great Rissington where it is difficult to exclude surface water, the consumers were obliged to boil water before drinking. At Clapton-on-the-hill and Icomb the public wells were cleaned out, while at Naunton the well supplying the lower part of the village was protected against surface pollution, and the spring serving the upper portion similarly protected, one third of an acre of land surrounding it being bought for the purpose.

Generally throughout the district, supplies were satisfactory in quantity, except at Ford, and at Chipping Campden where serious shortage necessitated the urgent completion of the portion of the comprehensive scheme serving that parish.

Northleach. There were no new sources of public supply, Northleach having indeed the only public piped supply in the whole district. The Council are considering increasing the pressure of this supply by a head of 50 feet. No new connections were made during the year. No shortage was reported during the year, and supplies are stated to be fairly satisfactory in quality. The Council have agreed to take twenty samples a year under the new County Scheme for Analysis.

Sodbury. No new sources of supply were made available during the year, but extensions to existing mains were made at Westerleigh, Frampton Cotterell and Pucklechurch.

A scheme has been formulated to supply Hawkesbury Parish from a large spring at Lower Kilcot and is now under consideration.

In the whole district 45 samples were taken for analysis, and except in the few places such as Hawkesbury, not yet served by main supplies, the quantity and quality of supplies has been satisfactory. New connections numbered 884.

Stroud. No new supplies or extensions are reported, but 270 new connections were made during the year. In addition to the samples taken by the Stroud Water Company itself, 25 were taken by the local authority's officers.

Piped water supplies are badly needed for Sheepscombe, where the wells are liable to pollution, Camp and Bisley. The scheme for these villages mentioned last year has not yet materialised.

Tetbury. The supply for Tetbury village is the only public piped supply in the district, and there have been no extensions. The quality of the Tetbury supply is considered satisfactory, but only two samples were taken. In future the Council have agreed to have a minimum of four samples taken annually under the new County Scheme. The source of this supply is a plentiful one, but as pressure in the pipes is inadequate at certain parts, the provision of a water tower is being considered.

Thornbury. Mains have been extended at Almondsbury to 18 council houses at Woodhouse Down, and at Hallen to another ten council houses.

During the year 40 samples were taken, including samples from all public wells in the district. The West Gloucestershire Water Company also had fortnightly samples taken of the main supplies by their own officers.

Generally supplies have been satisfactory in quantity but in quality fell short at Berkeley and at the Buckover Well.

Warmley. No extensions were made, but there were 65 new connections during the year. The supply generally has been satisfactory in quality and quantity, and 14 samples for chemical and bacteriological analyses were taken.

West Dean. Existing mains were extended to Joys Green, Broadwell, and Barn Hill Housing Schemes.

In the whole district 164 new connections were made.

Twenty-seven samples were taken during the year, quality being variable, but good since the installation of a chlorination plant. Some shortage was experienced during the early summer.

3. Drainage and Sewerage, Sewage Disposal, Closet Accommodation.

Improvements in sewerage and sewage disposal have been made in many parts of the County during the year, but there are still many parishes lacking a sewerage scheme where such is needed, and others in which improvements are urgently desirable.

As pointed out last year, the question of sewage disposal is closely connected with that of River Pollution, and in at least one instance the river survey work of the County Council Health Department has been influential in stimulating attention to improving sewage disposal arrangements in a district.

URBAN DISTRICTS.

Charlton Kings. The existing sewerage system connects with that of Cheltenham Borough. Small extensions of the Charlton Kings sewers have been carried out. No conversion is reported during the year.

Cheltenham. The Moorend re-drainage scheme has been completed. St. Anne's Terrace and Tivoli Road have also been re-drained.

It is proposed to reconstruct the Cheltenham Main Sewer, to improve the sewerage in Rowanfield and reconstruct Wyman's Sewer.

Cirencester. Sewers were extended at Chesterton and towards Stratton to meet the needs of new buildings. A proper scheme for Stratton is under consideration. Two dry closets were converted to water carriage.

Kingswood. The Kingswood and Warmley Joint Sewerage Scheme, costing nearly £100,000 has now been completed, the new outfall work at Conham being put into operation towards the end of the year, superseding the old works at Warmley and Conham. The new works have effected a considerable improvement in the quality of effluent.

Small extensions to sewers were made in several places. No conversions were made, water carriage being already universal.

Mangotsfield. Duplication of main sewers in connection with certain building estates is required, while the disposal works also need additional tank and filter capacity.

No conversions were carried out, water closets being already the rule in this district.

Nailsworth. A sewerage system is desirable for Pinfarthings and is now under consideration. In the District four dry closets were converted to independent water carriage, in the absence of a sewer.

Stroud. A new joint sewerage scheme with the Stroud Rural District is contemplated. Improvements in sewerage and disposal are very necessary in this part of the County, as indicated by the results of the Survey of the River Frome made by the County Sanitary Inspector.

A sewerage system is also needed at Paganhill and Westrip.

Conversion amounted to 13 dry closets altered to water.

Tewkesbury. Sewers have been laid to the new housing estates at Hollans Road and Highperry Hill. The disposal works at Lower Lode are not satisfactory and new works are needed.

No conversion was carried out during the year.

RURAL DISTRICTS.

Cheltenham. The sewerage and sewage disposal scheme for Alderton and Gretton has been completed during the year, and extensions to sewers have been made at Bishops Cleeve, Prestbury and Winchcombe.

Schemes have been prepared also for Greet and for Toddington but are awaiting approval by the Ministry of Health.

Sewerage schemes, as mentioned last year, are desirable for the parish of Gotherington and for Kidnapper's Lane, Leckhampton.

The disposal works at Prestbury are overloaded and need enlarging, or diversion of some of the sewage to other works.

Fifty-seven earth closets were converted to water carriage.

Cirencester.—There were no developments during the year, but a scheme for improving the drainage of the fourteen Council Houses at Quenington is contemplated. At Fairford the sewage disposal arrangements need revision and modernising and the sewers should be extended to the new Council House Estate and the houses in the East.

Sewerage systems are desirable for the parishes of Lechlade, Poulton, Sidington and South Cerney.

In the district, 28 earth closets were converted into water closets and 6 privy vaults into earth closets.

East Dean.—The extensions of the East Dean Township sewers to Nailbridge and Drybrook have now been completed.

A sewerage scheme appears desirable in the parish of Ruardean. In the district 68 dry closets have been connected to water carriage.

Dursley. A relief sewer has been constructed in Dursley, and extensions at Cam Pitch and Box Road were commenced in November, to serve Cam's Green, Ashmead Green and Tilsdown. The extension may be continued to Sandpits. The Dursley and Cam purification works require modernising and enlarging, and sewerage schemes are needed for the parishes of Stinchcombe, North Nibley, Nympsfield, Coaley, Slimbridge, Kingswood and Ulcy.

Gloucester. No new schemes were completed or commenced during the year. The sewers in the parishes bordering the East, North East and South East of the City of Gloucester need improvements in sewerage, the existing sewers, particularly at Barnwood, Hucclecote and Brockworth being overloaded. The Longford disposal works, as is well known, are grossly overloaded and inefficient, and schemes to replace the works and augment the sewerage system of the district are being prepared and considered.

Other improvements are contemplated at Churchdown and Longney, and sewerage schemes are desirable for Hempstead, Quedgeley, Fretherne, Frampton, Saul, and part of Eastington parishes.

Seventeen new dry closets have been installed in the district but fourteen old ones have been converted to water closets.

Lydney. New works to drain the Naas Lane (Lydney) and the Grahamstown Road (Tidenham) Estates were begun. A comprehensive survey of the sewerage requirements of the whole district is being made, but assuredly a proper sewerage system is called for at Aylburton, Tidenham and St. Briavels.

Newent. The Cleve Mill sewage works have been extended by the enlargement of filter bed capacity and provision of a humus tank and new sludge lagoon. Improvement of the secondary sewage works at Newent, serving only about 40 houses, is also contemplated, as is the provision of a scheme at Dymock, at which village the conditions were referred to when discussing water supplies. Redmarley is also in need of sewerage.

Five privies were converted to water closets.

North Cotswold. Broad Campden has been sewered, the sewage being taken to Chipping Campden works for purification.

Further improvements are in course of fulfilment in the shape of extending the sewer at Bourton-on-the-Water and attention to the disposal beds at Lower Swell. Similar attention will be required later to the Upper Slaughter beds.

At Mickleton and Willersey there is no proper sewerage, drains discharging into ditches which become open sewers.

Ninety-nine dry closets were converted to water carriage.

A system of cesspool emptying or "wet scavenging" has been instituted at Bledington.

Northleach. There are no sewers or disposal works in this district. Thirteen conversions of dry to water closets were notified, but in this district privy vaults are still numerous.

Sodbury. Sewerage schemes for Yatc (Goose Green), Iron Acton and Old Sodbury, and for Pucklechurch, Wick and Abson are contemplated; also extensions of the Filton and Frome Valley scheme at Filton and Stoke Gifford.

Stroud. A comprehensive scheme for the whole Rural District together with the Urban District is being prepared, and it is hoped to hold the Ministry Inquiry during 1939. Such a comprehensive scheme is most desirable in the Frome (Stroud Water) valley, as is shown by the survey undertaken by the County Medical Officer when many instances of drains discharging directly into the River Frome were discovered.

During the year the sewerage of the parish of Minchinhampton was completed.

Sewerage schemes are also required for the Sheepscombe portion of Painswick parish, and for the parishes of Bisley, Chalford, Cranham, Horsley, Kings Stanley, Randwick and Whitcshill. At Sheepscombe, drains and effluents from small and only partly effective septic tanks discharge into the stream.

Improvements in existing sewerage are required at Painswick and Thrupp, and in disposal at Painswick, Thrupp, Stonehouse and Ebley.

Thirty-two dry closets were converted to water carriage. Further reference to disposal works in this district is made in the section on Rivers and Streams.

Tetbury. No developments occurred in the year other than the substitution of 13 earth closets for privy vaults and the replacement of one privy vault in Tetbury by a water closet. Two samples of the effluent from the Tetbury works were taken and found satisfactory.

Thornbury. The provision of a trunk sewer in conjunction with the Sodbury Rural District Council, and the sewerage of the Patchway area in Almondsbury are contemplated. Some private sewers and disposal works have been installed in connection with private building estates at Patchway. In the whole district 40 new dry closets have been constructed but only two conversions to water carriage were reported.

Warmley. The new sewer at Cadbury Heath has been completed. The parishes of Bitton, Hanham Abbots, Oldland and part of Siston require sewerage and a scheme to embrace them all has been prepared and submitted to the Ministry of Health for approval.

Conversion to water carriage has been accomplished in the case of 79 dry closets.

West Dean. A scheme for providing Coleford and district with an adequate and modern sewerage system has been prepared and is awaiting approval.

All the parishes in this district do, however, require a sewerage system, or improvements to existing systems. Eighty-six dry closets were converted to water carriage.

4. Rivers and Streams.

The first of the comprehensive surveys of Rivers undertaken by members of the County Staff was made in July and formed the subject of a special report to the County Public Health Committee in September. This comprised a survey of the (Stroud) River Frome throughout its length and some of its major tributaries. The survey disclosed an undesirable state of affairs in all three districts concerned—Nailsworth Urban, Stroud Urban and Rural—serious pollution of the Frome and Slad tributary and of the Thames and Severn Canal by domestic sewage, insufficiently purified effluents from sewage works, and trade wastes being revealed.

Samples were taken at twenty points, and in some places the samples of river water, according to the Biological Oxygen Demand test, were many times worse than samples of sewage effluent should be. The disposal works of the Stroud Urban District, and the Ebley and Stonehouse works in the Rural District, were all discharging effluent totally unsuitable for entry into a river; that from Ebley being 35 times and that from Stonehouse 19 times stronger than the standards laid down by the Royal Commission on Sewage Disposal.

Many instances of house drains discharging directly into the river or its tributaries were discovered and most of the factories on the banks of the river and canal appeared to be discharging their wastes, some after treatment, into the

water. It is hoped that the results of this survey, which were communicated to the three local authorities concerned, will expedite the proposed improvements in sewerage and disposal in this area which have been mentioned in the previous section of this annual report.

In other parts of the County, District Medical Officers of Health have reported various complaints, and action taken, in relation to River Pollution.

At Charlton Kings a complaint was made of the pollution of a tributary of the River Chelt. This pollution was investigated and found to be due to house drainage reaching the stream via a surface drain.

In the Cirencester Urban and Rural and North Cotswold and Northleach Rural Districts, the Thames Conservancy officials keep a particularly close watch for cases of pollution of any streams which eventually find their way into the Thames, and the Rural District Councils co-operate with them.

The pollution by sewage of the River Avon in the South of the County has been considerably relieved by the opening of the new Kingswood and Warmley purification works at Conham.

In the Cheltenham Rural District, a cider factory was found to be polluting a stream at Fiddington, but after attention was drawn to the pollution, the necessary steps to prevent it were taken by the factory.

Pollution of streams from house drainage at Woodmancote and Prestbury has been rectified by improved drainage.

In the Cirencester Rural District pollution of a stream by house drainage from a Country House was remedied after informal representation.

A factory in the Dursley Rural District was found to be polluting a stream with oil, and steps are being taken in the hope of avoiding this.

In the Lydney Rural District, it has been found necessary to post notices under Sec. 259 of the Public Health Act, 1936, prohibiting the deposit of refuse in the River Lyd.

The Ellbrook, a tributary of the River Leadon, has been polluted by sewage, but improvement should occur now that the Cleeve Mill Sewage Works at Newent have been extended.

In the North Cotswold Area, the system of wet scavenging newly instituted at Bledington should reduce or prevent pollution of the Evenlode. Improvements in sewerage and sewage disposal effected during the year at Moreton-in-Marsh, Broad Campden, Lower Slaughter and Upper Swell will help to prevent pollution of the Rivers Windrush and Dikler or their tributaries.

5. Annual Surveys of the River Severn.

The surveys of the River Severn throughout its course are conducted twice yearly, under arrangements made by the Ministry of Agriculture and Fisheries, the Summer survey being made on July 5th and the Autumn survey on October, 7th.

This year the scope of the chemical analysis has been increased by the estimation of chloride and of nitrite (nitrous nitrogen), in addition to the estimation of Free and Saline Ammonia which was begun last year. These three estimations each help to indicate the degree of pollution of the water.

An additional sampling point was also established this year on the River Chelt at the bridge about 50 yards from its union with the Severn at Wainlode. The sampling point on the arm of the River Avon at Lower Lode was moved from 50 to 200 yards above the confluence with the Severn, and at the October survey, the point below the Gloucester City Sewage outfall was moved from 200 yards to $\frac{1}{4}$ mile below the outfall, and about 250 yards above the confluence of the East and West arms of the Severn.

Samples were, as usual, taken at a depth of 6ft. where possible, but in the Chelt, where the water was not more than $2\frac{1}{2}$ ft. deep, the canister was suspended just off the bottom.

ANALYSES OF SAMPLES, JULY 5TH, 1938.

	Time	Temperature		pH	Chloride Parts per 100,000	Nitrous Nitrogen (Nitrite) Parts per 100,000	Ammon. Nitrogen (Free & Saline Ammonia) Parts per 100,000	Dis- solved Oxygen Parts per 100,000	Oxygen Satu- ration %
		Air °C	Water °C						
Mythe Bridge	10.5	15.0	17.0	7.4	6.0	0.0104	0.023	0.658	70.7
River Avon, 200 yds. above Confluence	10.30	16.5	17.0	7.9	8.8	Absent	0.0244	0.657	73.0
Lower Lode	10.50	16.0	17.0	7.5	6.0	Absent	0.018	0.794	85.4
Haw Bridge	11.15	15.0	17.0	7.5	6.1	Absent	0.0124	0.717	77.1
River Chelt, 50 yds. above Confluence	11.35	14.0	15.5	7.7	12.8	0.0864	0.850	1.000	112.3
Maisemore Bridge (Western Arm)	12.10	16.5	17.6	7.5	7.6	Absent	0.024	0.744	82.0
Over Bridge (Western Arm)	12.20	16.5	17.0	7.6	7.3	0.0097	0.0248	0.752	81.7
Westgate Bridge (Eastern Arm)	1.10	16.5	17.0	7.5	7.8	0.0058	0.0328	0.678	74.5
200 yds. below Gloucester City Outfall (Eastern Arm)	1.30	16.5	17.0	7.6	7.7	0.0073	0.024	0.480	52.7
Minsterworth Ferry ...	12.45	15.5	17.0	7.6	5.3	Absent	0.034	0.718	76.4

The weather was at first cloudy and rather cold, with frequent showers, but improved later, the sun shining brightly for a period at mid-day. Wind was light and from the North West. Generally the current was sluggish and the surface smooth. Colour ranged from semi transparent sepia at Mythe Bridge to an opaque muddiness at all points below the Maisemore division.

The Survey was completed between 10 a.m. and 1.30 p.m. From Mythe Bridge to Lower Lode the rise in the percentage saturation with dissolved oxygen, and the fall in ammoniacal nitrogen were astonishing, but may be accounted for by the fact that the short Western terminal division of the River Avon falls over weirs before it joins the Severn below Mythe Bridge, and therefore brings in well oxygenated water.

The figures from the Chelt were rather anomalous, for with the degree of pollution expected in this river and which is borne out by the chloride and ammonia analyses, a low figure for dissolved oxygen was expected. The supersaturation actually estimated can, however, be explained by two circumstances, first, the water where sampled was shallow and broken up by the piers of the little bridge thereby being temporarily oxygenated; secondly by the fact that when the ordinary simple chemical technique for estimating dissolved oxygen is carried out on a water in which the content of free and saline ammonia is high, the estimation becomes inaccurate, too high a figure for dissolved oxygen being obtained, and under such circumstances, a different and more complex method of estimating the dissolved oxygen becomes desirable, involving preliminary oxidation of the water and the use of several additional reagents which must be added to the water at definite intervals of time after taking the sample. It may be possible to arrange that the preliminary oxidation technique is followed in the future at sampling points where previous experience suggests heavy pollution and high ammonia content, but considerable difficulties will have to be overcome.

The superiority as regards dissolved oxygen of the Western over the Eastern arm of the Severn below the Maisemore divide is evident. The Eastern arm shows a fall in dissolved oxygen at Westgate Bridge, and a further fall at the sampling point above the reunion. The effluent from the Longford Sewage Works enters the Longford brook which joins the Eastern arm of the Severn above Westgate Bridge, and the effluent from the City works, at present practically unpurified crude sewage, enters the Eastern arm between Westgate Bridge and the next sampling point.

AUTUMN SURVEY, OCTOBER 7TH, 1938.
ANALYSIS OF SAMPLES.

	Time	Air Temp.	Temp.	Com- bined Chlorine Parts per 100,000	Nitrous Nitrogen Parts per 100,000	Free and Saline Ammonia Parts per 100,000	pH Value	Dis- solved Oxygen Parts per 100,000	Oxygen Satu- ration %
Mythe Bridge	9.55	13.0°C	14.0°C	12.2	0.006	0.0400	7.9	0.878	94.4
River Avon, 200 yds. above confluence	10.20	13.5°C	12.5°C	8.6	Absent	0.0130	7.9	0.939	94.8
Lower Lode	10.35	13.5°C	13.0°C	13.7	Absent	0.0060	7.9	0.918	99.8
Haw Bridge	10.55	13.7°C	13.7°C	13.2	Absent	0.0050	7.9	0.924	100.4
River Chelt	11.10	13.0°C	12.0°C	7.2	0.0264	0.460	7.8	0.704	69.0
Maisemore Bridge (Western Arm)	11.45	15.0°C	13.8°C	12.5	Absent	0.0180	7.9	0.862	93.7
Over Bridge (Western Arm)	12.00	15.0°C	13.7°C	12.0	Absent	0.0160	7.9	0.798	85.8
Westgate Bridge (Eastern Arm)	12.45	14.5°C	13.0°C	12.1	Absent	0.0400	7.9	0.928	99.8
$\frac{1}{4}$ mile below City Outfall (Eastern Arm) ...	1.15	15.0°C	13.8°C	12.2	Absent	0.0300	7.9	0.770	82.8
Minsterworth Ferry ...	12.30	14.0°C	13.0°C	11.2	Absent	0.0180	7.9	0.955	97.4

The weather on this occasion was stormy, blowing strongly from the South West throughout the morning. Rain threatened early in the morning, and occasionally a drop was shed; but after 11.0 a.m. some improvement occurred, the sky clearing and allowing occasional beams of sun to penetrate.

At all the sampling points the river was of an opaque sepia colour, and the current was stronger than usual, except in the lower reaches after mid-day, where the influence of a flowing tide made itself felt.

At Minsterworth, owing to the difficult condition the samples were taken from the distal end of the landing stage, where only $5\frac{1}{2}$ feet depth of water could be obtained.

The survey was completed between 9.45 a.m. and 1.15 p.m. The results of the sampling showed that there was an all round improvement in dissolved oxygen content as compared with the October 1937, and also July 1938, surveys, the improvement in the degree of saturation averaging 20%.

The Chelt sample, however, showed a deterioration, as compared to the supersaturated figure of July, which indeed was considered anomalous.

Improvements in the nitrite and free and saline ammonia figures were the rule, as compared with July—nitrites being absent at all except two points, and the ammonias being reduced at all points except those on the Eastern Division of the Severn, at Westgate Bridge and below the City outfall.

6. Scavenging and Refuse Disposal.

Wet Scavenging.

In some of the Urban and all of the Rural Districts, where a water supply is available but there is no sewer, it is common to take house drainage, including soil from water closets, to cesspools or settlement tanks.

So far, only three of the Districts in this County have undertaken or commenced to undertake “wet scavenging” service.

The Stroud Rural District Council acquired in October a special evacuating vehicle, and so far this has emptied 26 cesspools or settlement tanks and disposed of their contents. A small charge for the service is to be made in future.

Stroud Urban District Council have a similar arrangement, and the North Cotswold Rural District Council have also commenced a scheme, so far confined to the parish of Bledington.

Dry Scavenging and Refuse Disposal

URBAN DISTRICTS.

All the urban districts in the County are now served by regular refuse collection services.

The refuse is disposed of usually by the “controlled tipping” method, which is most satisfactory if the several requirements involved are rigidly complied with, and which can be put to excellent use for levelling or providing amenities such as recreation fields. Some districts, however, dispose of the refuse by destruction.

RURAL DISTRICTS.

Cheltenham. Prestbury, Leckhampton, Woodmancote, and Winchcombe are the only parishes so far scavenged publicly, but private arrangements operate at Southam and Shurdington.

Cirencester. The only parishes scavenged are Coates, Duntisbourne Abbots, Fairford, Lechlade, Rodmarton and Quenington, no facilities being available yet for the remaining 19 parishes. The Lechlade Tip was closed at the end of the year and the Lechlade refuse will be sent to Fairford in future. The Fairford Tip is to be deratised periodically, by contract with the County Council.

Dursley. Nympsfield and Slimbridge are now the only unscavenged parishes.

East Dean. Scavenging of Blakeney, in Awre parish, was commenced during the year, but the parishes of Blaisdon, Churcham, Huntley, Longhope and Mitcheldean are still unserved.

Gloucester. Exactly half the parishes in this District are as yet unscavenged, namely, Ashleworth, Chacely, Down Hatherley, Elmore, Forthampton, Harescombe, Haresfield, Hasfield, Highnam, Longney, Maisemore, Minsterworth, Moreton Valence, Norton, Sandhurst, Standish, Tirley, Twigworth and Westbury-on-Severn.

Lydney. Lydney and Aylburton are the only parishes served.

Newent. No scavenging service exists in this district except for the town lighting area of Newent parish.

North Cotswold. All parishes are scavenged by a comprehensive scheme operating throughout the Rural District. During the year, the interval between collections was reduced in certain parishes by scavenging fortnightly instead of monthly.

Northleach. Eighteen out of the twenty-six parishes are devoid of a public scavenging service, but in some cases the work is undertaken by private estates. In the remaining eight parishes refuse is collected and disposed of by controlled tipping.

Sodbury. The individual arrangements made by each parish in 1934 continue. As mentioned last year this renders supervision by the Local Authority difficult, and supervision and strict control are important conditions if controlled tipping disposal is to be successful.

Stroud. The whole district is scavenged.

Tetbury. No parishes are scavenged except Avening and Tetbury but the whole of the latter parish is now served.

Thornbury, Warmley and West Dean. All parishes in each of these Districts are scavenged. In Warmley the interval between collections has been reduced during the year from a fortnight to a week.

In unscavenged localities it is often the practice to bury refuse in gardens. In the case of non-perishable refuse such as glass and old tins this results in considerable spoiling of the soil and interference with cultivation, especially on the Cotswolds, where the close proximity of the oolite rock to the surface prevents the burying of the refuse below normal cultivation depth.

7. Sanitary Inspection.

The following is a tabular summary of the work in connection with Sanitary Inspection by the officials of the various District Councils during the year.

The inspection of houses made under the Housing Acts and under the Public Health Acts is not always distinct, and this section should be read in conjunction with that on Housing.

DISTRICT.	Inspections made.	Nuisances, Total.	Nuisances, Swine only.	Complaints received.	Informal or Preliminary notices sent.	Statutory notices sent.	Nuisances abated.	Summonses issued.	Convictions obtained
Urban.									
Charlton Kings ...	155	48	—	18	16	10	26	—	—
Cheltenham ...	16,929	7,550	—	682	144	185	7,430	—	—
Cirencester ...	1,825	120	1	124	47	—	118	—	—
Kingswood ...	311	155	2	135	153	9	146	2	2
Mangotsfield ...	22	4	1	21	13	—	9	—	—
Nailsworth ...	34	15	1	9	15	1	16	1	1
Stroud ...	4,684	310	2	157	82	21	403	—	—
Tewkesbury ...	1,372	40	—	26	21	1	35	—	—
Urban Total ...	25,332	8,242	7	1,172	491	227	8,183	3	3
Rural.									
Cheltenham ...	149	34	4	32	28	3	26	—	—
Cirencester ...	2,429	98	1	139	57	1	101	—	—
Dursley ...	1,245	85	2	57	32	8	68	—	—
East Dean ...	50	47	2	27	4	1	30	1	1
Gloucester ...	990	146	8	88	110	11	115	—	—
Lydney ...	—	55	—	37	37	4	53	—	—
Newent ...	101	42	1	30	20	1	33	—	—
North Cotswold ...	3,248	184	2	74	164	17	114	—	—
Northleach ...	70	35	1	35	50	—	35	—	—
Sodbury ...	163	139	—	97	91	—	98	—	—
Stroud ...	3,758	32	—	32	109	14	32	1	1
Tetbury ...	217	7	—	110	65	—	65	—	—
Thornbury ...	112	112	3	56	21	1	101	—	—
Warmley ...	120	13	—	10	11	2	2	—	—
West Dean ...	183	20	—	28	17	—	16	—	—
Rural Total ...	12,835*	1,049	24	852	816	63	889	2	2
County Total...	38,167	9,291	31	2,024	1,307	290	9,072	5	5

* Exclusive of Lydney.

8. Premises or Occupations Subject to Statutory Control.

Such premises or occupations include Shops and Offices, Factories and Workshops, Bakehouses, Offensive Trades, Outworkers' Residences, Tents, Vans and Sheds, Canal Boats, Cowsheds, Dairies and Milkshops.

Cowsheds and Dairies are covered in another section of this Annual Report.

The following is a summary relating to these special premises or occupations.

Shops and Offices.

There is considerable variation in the inspection of these premises in different parts of the County, among Urban Districts, for example, Stroud inspected 195 shops with 215 inspections and Nailsworth four shops with single inspections, while among Rural Districts, Stroud inspected 165 shops or offices and took action under the Shops Act in the case of 20, while East Dean, Gloucester and Sodbury made no inspections and Warmley and Lydney very few in relation to the number of shops in the districts. Action taken either under the Shops Act, 1934, which contains provisions regarding heating and ventilation and provision of sufficient sanitary conveniences, or under the Public Health Act 1936, for dirtiness, etc., also varies to a greater extent than appears to be justified by differences in standards of shops and offices in one district as compared with those in another.

URBAN DISTRICTS.

483 shops or offices were inspected and 518 inspections made, also all new Mangotsfield shops, figures for which are not available. Action was taken in 53 cases under the Shops Act, 1934, and 38 cases under the Public Health Act, 1936, some of the action taken being informal and some statutory.

RURAL DISTRICTS.

302 shops were inspected and 500 visits paid, action being taken in 26 instances under the Shops Act and six under the Public Health Act.

Factories.

The distinction previously drawn between Factories and Workshops has under the Factory Act 1937, been abandoned. Instead Factories are now classed as "with mechanical power" and "without mechanical power." This new distinction concerns the Home Office Inspectors more than the Public Health Authorities, whose duties are practically limited to inspection and action with regard to means of escape in case of fire and issuing certificates in relation to this, the provision of suitable closet and lavatory accommodation, ventilation, temperature, drainage of floors, cleanliness and overcrowding.

In Urban Districts, 245 powered and 159 unpowered factories were inspected, 358 and 186, respectively, inspections being made.

Action was taken in 61 instances, usually in connection with dirtiness, defective or insufficient closet accommodation, and badly drained floors.

In Rural Districts 298 powered and 447 unpowered factories were inspected, respectively 394 and 798 inspections being made. Matters dealt with chiefly comprised provision of sufficient sanitary accommodation for each sex, cleanliness, and provision of adequate means of escape in case of fire.

Bakehouses.

During the year 309 Bakehouses were inspected in the County, 574 inspections being made. 86 of the Bakehouses were in Urban and 223 in Rural Districts. One Bakehouse had to be closed owing to severe dirtiness, and sanitary conveniences were improved at another. In a number of cases action was taken with regard to lesser degrees of dirtiness.

Offensive Trades.

There are comparatively few "Offensive Trades" registered in the County, and the premises of only 33 (26 of which were in Cheltenham Borough) were visited during the year, 140 inspections being made. The only action required was cleansing and limewashing in one case.

Outworkers' Residences.

Seventy-four outworkers' residences, sixty-nine of which were in Urban Districts were visited during the year. No action required to be taken as the result of inspection.

Tents, Caravans and Sheds.

During the year, 218 of these temporary or mobile dwellings were inspected in the County, 204 being in Rural Districts. Inspections totalled 527. Action taken as the result of the inspections included the following:—demolition of a caravan at Cheltenham under Section 11 of the Housing Act 1936, the declaration by the Cheltenham Rural District of two encampments as Clearance Areas (the Ministry of Health subsequently confirming the Clearance Orders), demolition orders made in respect of three caravans in Newent Rural District, the adoption of Byelaws for Tents, Vans and Sheds and also for Fruit, Vegetable and Hop-Pickers by the North Cotswold Rural District Council, and the withholding of licences in certain other instances.

Canal Boats.

The only part of the County in which Canal Boats were inspected during the year was the Lydney Rural District. There 18 boats were inspected but no action found to be indicated.

Milk Shops.

These have been inspected by Officers of the District Councils along with cowsheds and dairies, which are reported on in another section. No action in respect of Milk Shops was taken during the year.

Smoke Abatement.

In Urban Districts, 25 complaints with regard to smoke nuisance were received and 80 independent observations of chimneys made by officers of the local authorities.

In Cheltenham 11 out of the 12 nuisances complained of were abated informally, but a statutory notice was required in the case of the remaining one, the business being then discontinued.

At Kingswood there were 9 nuisances complained of, mainly due to grit in the smoke emitted during sandblasting at engineering works, or due to the smell of burning leather.

In Rural Districts, only 3 nuisances were complained of, and 3 other observations made.

Bug Eradication.

On the whole bug infestation is not a serious problem in this County. The measures taken to combat the pest vary considerably from district to district. Thus in some a very complete system is followed consisting of the following

procedure : complete stripping of the rooms including wall paper, door architraves and skirting ; use of the blowlamp, or of a gaseous or spray chemical hemiptericide. Furniture, bedding, etc., is fumigated separately or destroyed, the whole being followed by re-inspection and a repetition of the fumigation in a week or 10 days. The homes of prospective tenants of new Council Houses are visited by Sanitary Inspectors before the move, and infested articles treated before removal to the new house. Educational " follow-up " visits are then carried out in the new homes periodically. This comprehensive disinfection system is practised by a number of the County Districts, but in some others in which the bug problem is perhaps in least evidence, very little is being done.

Of the chemical substances used as contact or inhalation hemiptericides, Hydrocyanic Acid Gas is used in Cheltenham ; a very effective agent but requiring skilled application and rigid precautions owing to its poisonous nature. In other areas, where the special staff and precautions necessary with Hydrocyanic Acid would be uneconomical or impracticable, proprietary hemiptericides are used.

Schools.

A summary of the sanitary condition of public elementary schools in the County has been given in this year's Annual Report of the School Medical Officer.

Camping Sites.

Owing to the growth of the healthy and stimulating camping habit, camping sites are increasing in number and size in the County, and some measure of supervision and control is necessary over the selection of the site, provision of good water supply, and of sanitary accommodation so that no nuisance, nor potential danger to health either to the campers themselves or to the residents in the district, can occur.

Where definite camping sites have been established, the District Councils have taken the necessary precautions regarding their equipment and conduct.

With the exception of Tewkesbury Borough none of the Urban Districts were concerned with camping sites during the year. In Tewkesbury, however, there are two sites, licences for which have been issued under Section 269 of the Public Health Act 1936. During the summer season the maximum number of campers on the two sites together at any one time was about 400. The Tewkesbury Corporation adopted model byelaws during the year.

In Rural Districts 69 sites were used for camping and 50 licences granted, the difference in number being accounted for by the fact that some of the sites were occupied for short periods only and therefore not affected by the provisions of Section 269.

It is estimated that the maximum number of campers at any one time in the County was approximately 3000, 2000 of which were in the Thornbury Rural District. During the year however, the first large camping site in the Forest of Dean has been licensed by the West Dean Rural District Council, and this is equipped with separate sanitary conveniences and ablution sheds for each sex. Sites used for tents, or other temporary dwellings, occupied by fruit and vegetable pickers are exempt from the provisions of Section 269 ; nevertheless, in at least one district, namely Cheltenham Rural, it has been possible to bring about improvements in water supply and sanitary accommodation for such premises.

Facilities for Swimming.

Since the survey of swimming facilities in each district given in last year's Annual Report, a number of additional places where swimming is now, or could be enjoyed, have come to notice. This County is not well endowed with lakes or ponds, the few such being in private hands, and are not, with one or two exceptions, available to the public for swimming. Recourse must therefore be made to streams and rivers, the majority of which are small and do not allow serious swimming. The districts bordering the Severn above Gloucester, and the Avon above Tewkesbury are, however, fortunate and the upper reaches of the Thames near Lechlade, and a few reaches or pools on the Coln, Churn, Windrush and Dikler are suitable for swimming.

The following is a review of the facilities available in the various Districts, including in the case of artificial swimming pools, a note of the steps taken to maintain the purity of the water.

URBAN DISTRICTS AND BOROUGHES.

Charlton Kings. There are no facilities other than those in the adjoining Borough of Cheltenham.

Cheltenham. The publicly owned Sandford pool, which is the main swimming place in the borough, remained in excellent condition throughout the season. The water is continuously filtered, chlorinated and aerated, and samples, taken from the deep end, were always satisfactory. Other facilities are provided by the Montpellier and Alstone baths.

Cirencester. One swimming bath is owned by the Council, who ensure the purity of the water by chlorination. Another pool is privately owned by a large school.

Kingswood. At Conhan the River Avon is used for swimming, and there is also a private open air bath at Deanery Road, Warmley. No filtration takes place but the water is changed fortnightly and intermittent chlorination is carried out.

Mangotsfield. No facilities.

Nailsworth. There is a large pool, fed chiefly by natural springs, the sides and bottom of which have been concreted and a portion fenced off for learners. This is a privately owned swimming pool which, however, was not used during the year owing to the committee governing the enterprise temporarily ceasing to function.

Stroud. The new Council open air swimming pool at Stratford Park has been admirably designed and constructed. The water is subject to continuous filtration and chlorination, and there is a separate shallow pool for toddlers.

Tewkesbury. The Rivers Avon and Severn render this district the most fortunate in the County as regards swimming facilities. No analyses of the water have been made yet with a view to confirming that the standards of purity are up to those recommended for swimming pools, but it is known that neither river, above Tewkesbury, is badly polluted.

RURAL DISTRICTS.

Cheltenham. This district also, in its northern part, has the excellent facilities provided by the Avon, but the purity of the Severn on the border of that portion of the district which lies to the south of Tewkesbury is questionable owing to the reception of effluent from the Tewkesbury sewage works.

The villagers of Stanton are allowed the use of a private open air bath, but the Winehcombe swimming bath was not in use during the year.

Cirencester. The River Thames provides good facilities for bathing near Lechlade, is well used and the condition of the water is good. Most of the suitable reaches or pools on the Coln and Churn are not open to the public.

Dursley. There is a swimming pool formed by the damming of an old Mill stream at Hack Mill, near Wotton-under-Edge. An analysis of the water taken early in 1938 was satisfactory. The Gloucester and Sharpness Canal traverses the parish of Slimbridge and provides fairly good swimming.

East Dean. There is a fairly large pond, owned by the Crown, at Soudley. It is formed by the damming of a small stream fed by a spring and surface water. There is also a small privately owned pool at Longhope.

Gloucester. The best swimming in this district is probably provided by the Gloucester-Sharpness Canal. The River Severn is used for swimming, especially at Wainlode and Rodley Sands. The same remarks apply, with regard to the purity of the water, as were made in the case of Cheltenham Rural District.

There is a small private pool at Minsterworth, but owing to the shortage of water, it was not used in 1938.

Lydney. Other than the Rivers Severn and Wye, in the portions of which flanking this district the conditions are hardly safe for bathing, the only facilities are two privately controlled pools, the Bathurst (Lydney) and Beachley swimming pools, the latter being continuously chlorinated by plant, the former intermittently treated.

Newent. There are only small streams, and the right bank of the Severn. Little bathing is enjoyed in this district.

North Cotswold. The rivers Dikler and Windrush, small though they are in their upper reaches, and hardly deep enough for serious swimming, are however used for bathing, and the water is in quite fair condition for this purpose.

There is a privately owned bath at Broad Campden. Four samples were taken of the water during the year and found satisfactory, but the owner has been advised to chlorinate the water as a precaution.

Northleach. The River Coln, which traverses this area, gives the only natural facility for swimming; but in few, if any, places have the public access to it for bathing purposes. There is a private pool at Dowdeswell.

Sodbury. The Bitterwell Lake, in the parish of Westerleigh, is privately owned. There are also privately owned pools or ponds at Wick and Old Sodbury used for swimming by the public.

Stroud. The privately owned pool at Cranham has dressing accommodation, so arranged as not to detract from the beauty of the setting of this pool, and is available for each sex. The pool is open from 4—6 p.m. on weekdays and before 10 a.m. of Sundays, a small charge being made and given to charity.

Tetbury. Swimming is practised in the lake at Cherington, in which the water is stated to be satisfactory for the purpose.

Thornbury. The Gloucester-Sharpness Canal provides fairly good swimming facilities in the North of the District. There are also private swimming baths open to the public at Firleaze Hotel and Severn Beach, and at Thornbury Bathing Pool where there is running water, passed through a sand filter.

Warmley. No facilities.

West Dean. The Cannop Ponds, and a private cooling tank connected with the Cannop Collicry, are available for swimming.

9. Housing.

The following is a digest of the work which has been carried out in the various County Districts in connection with Housing during the year.

Inspection of Houses.

Houses are inspected either informally or formally, the inspection in the latter case being carried out under the Public Health Act, 1936, or, as is now more usual and convenient, under the Housing Act, 1936, in which case the routine inspections are made according to the provisions of the Housing Consolidated Regulations, 1925 and 1937.

	<i>Urban</i>	<i>Rural</i>	<i>All County</i>
Total number of Houses inspected, under Public Health Act, 1936, or Housing Act, 1936	1,622	4,443	6,065
Number of inspections made for this purpose	4,384	8,960	13,344
Number of Houses included under above which were inspected under the Housing Consolidated Regulations, 1925 and 1937	500	2,596	3,096
Number of inspections made for this purpose	2,368	4,465	6,833
Number of Houses found, as the result of inspection to be in a state so dangerous or injurious to health as to be unfit for human habitation	243	368	611
Number of Houses, exclusive of those above, found not to be in all respects reasonably fit for human habitation	936	1,130	2,066

	<i>Urban</i>	<i>Rural</i>	<i>All County</i>
<i>Remedy of Defects as the result of Informal Action.</i>			
Number of defective Houses rendered fit in consequence of informal action	348	529	877

Action under Statutory Powers during the year.

A. PROCEEDINGS UNDER THE PUBLIC HEALTH ACT, 1936—

(1) Number of Houses in respect of which notices were served requiring defects to be remedied	87	157	244
(2) Number of Houses rendered fit after service of formal notices			
(a) by Owners	48	73	121
(b) by Local Authority in default of Owners	6	0	6

B. PROCEEDINGS UNDER THE HOUSING ACT, 1936, PARTS II—IV.

PART II. (REPAIRS, DEMOLITION OR CLOSURE OF INDIVIDUAL UNFIT DWELLINGS
OR PORTIONS OF DWELLINGS.)

		<i>Urban</i>	<i>Rural</i>	<i>All County</i>
Repairs : (Secs. 9, 10, 16.)	(a) Number of Houses in respect of which notices were served requiring repairs	201	198	399
	(b) Number of Houses rendered fit after service of formal notices—			
	By Owners	58	118	176
	By Local Authority in default of Owners	0	1	1
Demolition : (Secs. 11 & 13.)	(a) Number of Houses in respect of which Demolition Orders were made	90	127	217
	(b) Number of Houses demol- ished in pursuance of De- molition Orders	117	118	235
Closure : (Sec. 12.)	(a) Number of separate tene- ments or underground rooms in respect of which Closing Orders were made	18	27	45
	(b) Number of separate tene- ments or underground rooms in respect of which Closing Orders were determined, the Owner having rendered the room or tenement fit for habitation	10	5	15

In some districts, *e.g.*, Cheltenham Rural and North Cotswold, considerable use has been made of the opportunity afforded by Section II of the Act, which allows the Local Authority formally to accept undertakings by owners to render defective tenements or underground rooms fit for human habitation, or to use them for other purposes, and so avoid closure.

PART III. CLEARANCE, RE-DEVELOPMENT AND IMPROVEMENT AREAS.

The year has been noteworthy for considerable activity in respect of slum clearance in Rural areas, until recently considered to be rather the prerogative of Urban districts.

The North Cotswold Rural District Council made 28 Clearance Orders, 13 of which have already been confirmed by the Minister of Health, the remaining 15 being still under consideration by him, while the Cheltenham Rural District Council made 13 new Clearance Orders and, including Orders made in 1937, obtained 23 confirmations and only three rejections by the Minister.

Nothing has been done in connection with Re-development Areas in the County, but this particular work is still in its infancy, and there have been very few Re-development Areas declared and Re-development Plans carried out in the whole of England yet. Moreover, such of this valuable work as has been attempted so far has been confined to urban or semi-urban localities.

The figures relating to Clearance Areas are as follows :—

	<i>Urban</i>	<i>Rural</i>	<i>All County</i>
Clearance Area Declarations made by Local Authorities	19	52	71
Clearance Orders submitted and awaiting confirmation by Minister	7	26	33
Clearance Orders rejected by Minister	0	3	3
Clearance Orders confirmed by Minister after Public Inquiry	21	38	59

PART IV. OVERCROWDING.

Number of Dwellings overcrowded at the end of the year	116	408	524
Number of families dwelling therein	119	409	528
Number of persons dwelling therein	728	2,544	3,272
Number of new cases of overcrowding reported during the year	71	47	118
Number of cases of overcrowding relieved during the year	272	231	503
Number of persons concerned in such cases	1,861½*	1,582½*	3,444
Number of cases in which houses have again become overcrowded after steps had been taken for abatement	0	4	4

* A child aged under one year is not counted at all, and a child over one year but under 10 years is counted as a half person.

Erection of New Houses during the year.

The following table shows how many new houses were erected in the County during the year, exclusive of the East Dean Rural District, figures for which were not available at the time of writing. The sum of the figures under headings 2(a), 2(b) and 3 should tally with those under heading 1, but do not.

	<i>Urban</i>	<i>Rural</i>	<i>All County</i>
1. Total New Houses erected during the year	1,187	2,229	3,416
2. New Houses erected during the year with State Assistance under the Housing Acts			
(a) by Local Authorities	441	384	825
(b) by other bodies or persons	373	102	475
3. New Houses erected during the year without subsidy	307	1,743	2,050
4. New Houses which during the year have been proposed to be erected under the Housing Acts, but not yet built	294	698	992
(Some of these are under construction.)			

SECTION E.

INSPECTION AND SUPERVISION OF FOOD.

1. Milk Supply.

(a) Milk (Special Designations) Orders, 1936 and 1938.

The supervision of the production of milk under the above-named Orders which was previously undertaken by the Council's staff of Veterinary Surgeons was taken over by the Health Department on 1st April, 1938, when the Veterinary Surgeons were transferred to the staff of the Ministry of Agriculture and Fisheries.

In order to deal with the increased volume of work, a County Sanitary Inspector and two Milk Sampling Officers were appointed; the former to undertake inspections and re-inspections of the farms, and the latter to collect periodic samples of milk.

A Milk and Dairies Sub-Committee, to deal with all matters relating to milk and dairies was appointed, consisting of six members of the Agricultural Committee and two members of the Public Health Committee.

The organisation of the inspections of premises and collection of milk samples is designed to allow for preliminary inspections of all applicants for licences and for routine re-inspections of farms at regular intervals. The arrangements for collection of samples permit of the taking of samples from producers at intervals of 3—4 months and is combined with the collection of samples of milk from Schools in the County. In order to keep the collection of samples up to this standard it was found necessary to appoint a third Milk Sampling Officer in February, 1939, and the County was then divided into three areas each based upon a laboratory; the North Eastern district based upon the laboratory at Cheltenham General Hospital, the Central area based upon the laboratory at the Gloucester Royal Infirmary and the Southern area based upon the laboratory of the

Agricultural Department of the University of Bristol. It was also arranged that the Assistant County Medical Officers should carry out routine re-inspections of farms in their areas.

The number of producers of Tuberculin Tested milk in the County at the end of the year was 133 and the number of Accredited milk producers was 598. The number of samples of milk collected since 1st April, 1938, including repeat samples was 1,462. The average monthly percentage of unsatisfactory samples during the year was 26.13%, the most unfavourable month being August when the figure rose to 38.2%.

In November the Committee decided to require as a condition of the issue or renewal of a licence that apparatus for sterilization by steam under pressure should be installed on all farms where the number of cows exceeds fifteen. The majority of producers in the County already employ sterilization by steam under pressure, and it is hoped that the application of this new rule will raise the standard of production and that individual producers who have not as yet experienced the benefits from such methods will find in practice that good results are more easily obtainable.

The system of inspections and sampling is designed to afford the maximum assistance to the producer and the visits are not to be regarded as of a fault finding or inquisitorial nature. Advice and help form the basis of the work and producers can be assured of the sympathy of the Officers of the Department in difficulties which are encountered and of their willingness to take every possible step to enable the producer to attain the necessary standards. It is, of course, necessary after repeated failures to suspend licences, but before and after suspension both the Officers of the Health Department and of the Agricultural Advisory Department make every effort to enable the producer to attain the desired result.

Although the work has only been in the hands of the Officers of the Health Department for a few months there is already a spirit of co-operation which I am most anxious to foster, and I look forward in the future to seeing this branch of the health services working entirely upon a basis of mutual assistance, co-operation and confidence.

(b) *Milk and Dairies Consolidation Act, 1915.*

During 1938 reports concerning 74 farms in Gloucestershire were received from other Authorities as follows :—

<i>Authority</i>			<i>No. of Reports.</i>	
Bristol C.B.	...	...	15	Tuberculosis.
Birmingham C.B.	...	...	3	„
Monmouth C.C.	...	...	1	„
Gloucester C.B.	...	...	2	„
			21	
Bristol C.B.	...	...	53	Other conditions—excessive dirt, etc.
			74	

Investigations at the farms in connection with Tuberculosis were undertaken by the Veterinary Staff of the Ministry of Agriculture, 660 cows being examined and 118 samples of milk taken for examination. The final results gave evidence of Tuberculosis in 14 cases, but in the other 7 instances no definite evidence was obtainable.

With regard to other conditions, the reports were referred to the District Medical Officers of Health and inspections of premises, collection of samples of milk and the necessary subsequent action were undertaken by them.

(c) *Milk and Dairies Order, 1926.*

This work is undertaken by the Veterinary Staff of the Ministry of Agriculture and no figures are available as to the number of visits made during the year to premises of registered producers.

(d) *Tuberculosis Order, 1938.*

Number of cases examined by the Veterinary Staff	...	209
Number of cases not amenable to the Order	... ..	100
Number of cases found amenable to and slaughtered under the Order	... ..	109
Number of cases suffering from chronic cough	... ..	61
Number of cases suffering from tuberculosis of udder	... ..	24
Number of cases suffering from tuberculous emaciation	... ..	24
Number of cases found, on post mortem examination, to be suffering from advanced tuberculosis	... ..	57
Number of cases found, on post mortem examination, to be suffering from not advanced tuberculosis	... ..	50
Number of cases found, on post mortem examination, to be not affected	... ..	2

2. Examination of Food and Drugs.

The County Police are responsible for the administration of these Acts, and the following is a report on the work undertaken during the year by the County Analyst upon samples submitted to him :—

During the year ending 31st December, 1938, 1,001 samples were examined under the Food and Drugs (Adulteration) Act, 1928, of which 94 were adulterated or did not satisfy the various regulations issued under the Act. This represents 9.4% of the number taken, which is an increase on the figure for last year. The following table gives the percentages of adulterated samples for the past 14 years.

				<i>Per cent. adulterated</i>
1938	...	...	...	9.4
1937	...	...	...	5.9
1936	...	...	...	4.2
1935	...	...	...	6.4
1934	...	...	...	10.6
1933	...	...	...	12.8
1932	...	...	...	12.1
1931	...	...	...	8.8
1930	...	...	...	8.9
1929	...	...	...	8.6
1928	...	...	...	10.8
1927	...	...	...	15.0
1926	...	...	...	12.6
1925	...	...	...	10.4
Average for 14 years, 9.7 per cent.				

Milk.

The number of milk samples submitted for examination was 642, of which 73 did not satisfy the standard laid down in the Sale of Milk Regulations by the Board of Agriculture for genuine milk. The number of adulterated samples is 11.3 per cent. of the number taken and is an increase on the figure for last year.

The following table gives the figures for the past year with the averages for 1936 and 1937. These analyses show that the milk produced is well above the minimum standard laid down by the Board of Agriculture for genuine milk. There were many serious cases of adulteration and proceedings were instituted in 15 cases, and convictions were obtained in 11 cases, the remaining four were dismissed.

		<i>Average for 1936 per cent.</i>	<i>Average for 1937 per cent.</i>	<i>Average for 1938 per cent.</i>	<i>Board of Agriculture Minimum Standard per cent.</i>
Non-Fatty Solids	...	8.94	8.96	8.92	8.50
Fat	...	3.68	3.65	3.66	3.00
Total Solids	...	12.62	12.61	12.58	11.50

The total amount imposed by the magistrates in fines and costs was £69 6s. 6d.

Jam.

One sample of Greengage jam contained an excess of sulphur dioxide preservatives.

Drugs.

Six samples of calcined magnesia were unsatisfactory in that the loss on ignition exceeded 5 per cent., contrary to the requirements of the British Pharmacopoeia. Proceedings were taken in one case, but the defendants pleaded warranty and the case was dismissed. Proceedings were taken against the wholesalers, but here again the prosecution was unsuccessful.

Pickles.

Two samples of pickles were returned as unsatisfactory because each contained sulphur dioxide preservatives whereas they were guaranteed not to contain preservatives.

Sausages.

Two samples of sausages submitted for examination contained sulphur dioxide preservatives which were not declared. The vendors were cautioned.

Dried Fruit.

Four samples of currants and one sample of prunes submitted for examination each contained traces of sulphur dioxide preservatives which are not allowed. No proceedings were instituted.

Sweets.

Three samples of sweets were returned as unsatisfactory, two containing a higher amount of copper than was desirable, the other having a slight excess of sulphur dioxide preservatives.

Pepper.

One sample of pepper was returned as unsatisfactory. The percentage of fibre was on the high side.

Malt Vinegar.

One sample was returned as unsatisfactory as it had not been brewed entirely from malt.

The samples examined were as follows :—

						<i>Number Examined</i>	<i>Number Adulterated</i>
Milk and Separated Milk	...	...	...	...	...	642	73
Butter, Cream Ice Cream	...	...	...	...	...	63	—
Margarine	...	...	...	...	...	23	—
Lard	...	...	...	...	...	7	—
Spirits and Wines	...	...	...	...	...	4	—
Beer and Cider	...	...	...	...	...	26	—
Non-alcoholic drinks, mineral waters and cordials	...	...	...	...	...	22	—
Tea, Coffee, Coffee Extract	...	...	...	...	...	26	—
Jam, Marmalade, Golden Syrup and Treacle	...	...	...	...	...	28	1
Drugs	...	...	...	...	...	51	6
Pickles	...	...	...	...	...	7	2
Sausages	...	...	...	...	...	15	2
Cornflour, Ground Rice and Flour	...	...	...	...	...	16	—
Dried Fruit	...	...	...	...	...	36	5
Malt Vinegar and Vinegar	...	...	...	...	...	9	1
Sweets	...	...	...	...	...	22	3
Pepper	...	...	...	...	...	4	1
						1,001	94

3. Nutrition.

A special survey of the Nutrition of Children in attendance at certain Elementary Schools in the County was undertaken during the year, and a report was included in the Annual Report of the School Medical Officer.

The results of the survey indicated that there was a higher percentage of malnutrition present amongst the children than the figures returned from medical inspections in the Schools appeared to indicate, and steps have been taken to try to secure greater uniformity in assessment by Medical Officers and for the provision of milk or meals in those cases where it appears necessary. In addition, visits are now paid by Health Visitors to the homes of children found to be suffering from malnutrition, and a special report is made on all the circumstances with particular reference to influences adversely affecting the child's nutrition. Educational measures which are undertaken as part of the health propaganda services are also to be intensified.

A section of the Travelling Health Exhibition is devoted to the subject of Nutrition, and during the tours of the Exhibition lectures and demonstrations on this subject have been undertaken.

The Nutrition exhibit includes a chart showing the various food constituents and their relative effect upon growth, production of heat and energy, protection against disease, etc., samples of various foodstuffs and models to illustrate their relative composition as to protein, fat carbohydrate, vitamins, etc., and their utility in the production of growth, heat and energy and the maintenance of health; exhibits of packed lunches for school children and meals illustrating the practical application of the principles embodied in the chart for every day purposes.

A milk section also forms part of the exhibition and is in charge of the Organiser of the National Milk Publicity Council. Talks and demonstrations on the value of milk as a food are given, and various exhibits showing comparative values in relation to other foodstuffs are included in the section.

The acquisition of a sound film apparatus has proved a valuable aid to education, not only during the tours of the exhibition, but for lectures given to various organisations and to the public.

A series of lectures on Nutrition was again arranged during the year through the Women's Institutes, approved Speakers were engaged and their fees and expenses paid for by grant from the County Council. A conference of Speakers was held prior to the series of meetings, when the programme and subject matter was discussed with a view to securing some degree of uniformity in the teaching afforded.

SECTION F.

MATERNITY AND CHILD WELFARE.

1. General.

The wide scope of the Maternity and Child Welfare Services and the varied activities included within their range will be evident from the information set out on the following pages. These services now embrace matters concerned with the health of the expectant and nursing mother, comprehensive arrangements

for safe confinement and medical and nursing supervision for the infant and pre school child. They are not concerned solely with the prevention of mortality, but seek to assure a high standard of positive health.

In assessing the need for care of the mother and child, the widest view of the function of maternity and child welfare services must be taken and narrowing of the limits within which a scheme operates will inevitably stultify its success and reduce its value. The arrangements made should, of course, aim at the prevention of disease and reduction of mortality, but the wider object of the attainment and retention of a higher standard of health is equally, if not more, important.

One of the main branches of the work is therefore the education of the mother in all matters pertaining to her own health and that of her child, and this work is carried on continuously at ante-natal clinics, Child Welfare Centres and in the homes by Health Visitors. It forms the background of all aspects of the work and throughout the whole service it is the foundation upon which success should be built.

An immense amount of voluntary effort is put into the work of the Maternity and Child Welfare Service, and the various Voluntary Organisations afford assistance which is of real value and without which it would be impossible to conduct the service successfully. This work is greatly appreciated and I would like to take this opportunity of thanking them for their co-operation.

2. Maternity Services.

(a) *Midwifery Services.*

During the year 238 midwives notified their intention to practise in the County—nine were employed in the County Council's Institutions, 162 were employed by voluntary associations and 67 were in private or hospital practice. 211 were resident in the County and 27 lived outside the County boundary.

The position at end of 1938 was as follows :—

	<i>Parishes</i>	<i>Area</i>	<i>Population</i>
(a) Covered by County Nursing Association :			
(1) Affiliated District Nursing Associations	297	753,264	271,328
(2) By independent County Midwives	5	14,028	8,572
(b) Affiliated to other County Nursing Associations	1	1,539	341
Number of registered births, live and still, excluding Cheltenham Municipal Borough	...	...	4,896
Number of births attended by midwives :—			
(a) As midwives	...	...	2,786
(b) As maternity nurses	...	...	1,343
			4,129
Percentage of cases attended by midwives	...	...	57

(b) Returns from Midwives.

Medical Help Notices :—

Mother—Pregnancy	...	...	292	
Labour	...	...	948	
Lying-in	...	...	139	
			—	1,369
Baby	...	...	...	259
Death of Baby	...	...	...	25
Stillbirths	...	...	...	43
Artificial feeding	...	...	...	87
Source of infection	...	...	...	184
Laying out of dead body	...	...	...	42
Change of address	...	...	...	121

(c) Supervision of Midwives.

The supervision of midwives is undertaken by two Medical Supervisors, Dr. Morris Jones and Dr. Gordon, and five of the Health Visitors who have each an area of the County allotted to them. In addition, the Superintendent of the County Nursing Association acts as a Supervisor of Midwives.

Each midwife is visited quarterly, when her records and appliances are inspected and visits are paid with her to patients to assess her standard of practical work. Special visits are also made for various purposes.

The supervisors of midwives paid 664 routine visits during the year, and in addition 212 special visits were made.

The Supervisors report that generally speaking the standard of work of the midwives is satisfactory and that they appreciate the help and advice given.

(d) Ante-natal Supervision.

(1) *Domiciliary.* The arrangements for a medical examination of booked midwifery cases twice during pregnancy have continued and an increasing number of expectant mothers have availed themselves of the facilities offered. The co-operation of the midwives in this service is probably the most important factor and much of the success achieved is due to their efforts in persuading patients of the value of ante-natal medical examination.

Arrangements have now been made for a post-natal medical examination to be available to all mothers, and midwives have been asked to ensure that their patients avail themselves of this service. The importance of this examination cannot be over emphasised, the early discovery of defects following upon pregnancy and confinement may have a profound effect upon the health and happiness of the patient and may be the means of preventing chronic ill-health or even the eventual occurrence of malignant disease.

(2) *Clinics.* The four ante-natal clinics at Cinderford, Lydney, Northleach and Soundwell continued to operate during the year. The three former have a monthly session and the latter is held fortnightly.

The attendances at Lydney and Northleach have decreased and serious consideration will require to be given to the question of their closure.

Patients are also referred from the County to the ante-natal clinics of other authorities at Cheltenham, Gloucester, Chepstow and Bristol.

Although facilities are offered for post-natal examinations at the clinics the response has been poor. It is hoped that with the inception of a general post-natal examination service throughout the County there will be an improvement in the numbers attending the clinics for this purpose. Although the importance of post-natal examinations is stressed during pregnancy and patients are urged to present themselves for such examination after confinement, there has probably been a tendency to doubt the necessity when patients dealt with under the domiciliary arrangements were not asked to do likewise. If the response to the domiciliary post-natal examination is satisfactory the figures at the clinics will no doubt improve concurrently.

The following are the details of numbers of patients dealt with and the number of attendances made.

		<i>No. of</i>	
		<i>Attendances</i>	<i>Patients</i>
Ante-natal—at all clinics during 1938 ...	...	833	396
Post-natal—at all clinics during 1938 ...	...	37	28
Examined by general practitioners ...	...		2,224

(e) *Maternity Hospitals.*

(1) The arrangements with the various Maternity Hospitals in the County for the admission of patients continued during the year. The scheme allows for the admission of complicated cases and of patients from unsuitable homes. There has again been an increase in the number of hospital admissions and at times difficulty has been encountered in securing admission for a patient to the nearest hospital and some patients had, of necessity, to be sent considerable distances.

During the year 589 cases were admitted to Hospitals; of these 53 were recommended from the various ante-natal clinics and 116 by doctors as a result of their examination under the domiciliary ante-natal scheme.

The main conditions calling for admission to hospital were:—

Contracted pelvis 67, Toxaemia 80, Previous history 47, Prolonged labour 9, Heart disease 16, unsatisfactory home conditions 159, and Puerperal pyrexia 24.

(2) *The Cotswold Maternity Home.* This hospital, which belongs to the County Council, has accommodation for 14 maternity cases, two private wards and six children's beds. The hospital was re-opened in August, 1937, after redecoration and the addition of necessary equipment.

The results of a full year's working show that the hospital is filling a need in the area and is appreciated by both doctors and nurses. The provision of two private wards where patients paying a full fee may have the attention of their own doctor has justified itself and proved a boon to medical practitioners whose patients wished to be confined in hospital.

The number of patients dealt with during the year was 139, the average duration of stay being 20.8 days.

(f) *Consultant Services.*

Doctors in the County continue to avail themselves of the service of consultants who are ready in each area to give a second opinion or assistance in any case where difficulty arises. Emergency outfits containing all necessary equipment for emergency use by a consultant are available at three centres in the County.

The number of requests received during the year for the services of a consultant was 48 and in each case the necessary advice and assistance was provided without delay.

(g) *Dental Treatment.*

Provision is made in the County for the dental treatment of expectant and nursing mothers and pre-school children. Cases are referred by the Medical Officers of ante-natal clinics and Child Welfare Centres and by Midwives and Health Visitors. Treatment is carried out at six strategic Centres in the County which have been equipped with facilities for carrying out dental operations. The mothers receive such treatment as may be necessary to render them dentally fit, including the provision of dentures. For these dentures a charge is made to the mothers to cover the cost of materials and workmanship. In some few cases of indigence the whole or part of the charge for the dentures is remitted. During the year under review adults made 1,001 attendances at the dental clinics and children 188.

(h) *Provision of Milk.*

The arrangements for the supply of milk to expectant and nursing mothers allow for the provision of one or more pints of milk daily on the recommendation of a midwife or doctor. Milk is supplied free only in cases where the family income is within the Scale adopted by the County Council. The milk is available to patients during the last three months of pregnancy and the whole of the nursing period, but in exceptional cases these conditions may be relaxed. Milk is also supplied where necessary to children under five years of age.

The following are the total amounts supplied during the year :—

No. of new applications	...	...	...	994
„ „ renewals	...	...	...	4,064
„ „ gallons of milk	...	...	...	18,359
„ „ lbs. of dried milk	...	...	...	706

(i) *Maternal Mortality.*

The Maternal Mortality Rate for the County in 1938 is 3.74 as compared with 2.54 last year and with a rate for 1938 of 2.97 for the Country as a whole.

This figure appears very high in comparison with that for the country as a whole, and with the figure for the County during 1937. In that year the number of maternal deaths was very small, and it was recognised that it was unlikely to be an index of the average county maternal mortality rate which had previously been below that of England and Wales.

There were 21 maternal deaths, two of which occurred in Cheltenham Borough.

The causes of maternal death in County patients were as follows :—

Puerperal sepsis	...	...	7
Haemorrhage	...	...	3
Embolism	...	...	2
Toxaemia	...	...	1
Eclampsia	...	...	1
Pneumonia	...	...	3
Ruptured ectopic gestation	...	...	1
Tuberculosis	...	...	1
			—
			19
			—

Ten of the women were delivered in their own homes and subsequently moved to hospitals, and nine were delivered in hospitals. Three of the cases only died in their own houses. In every case ante-natal examinations had been made by a Doctor or Midwife, and in many instances an abnormality had been detected. The seven cases of puerperal sepsis present special difficulties—it is not possible to state the cause of the infection and with the modern methods of treatment of this condition nowadays the outlook is much more hopeful, but in these particular cases the treatment was of no avail. There has been a diminution in the number of deaths from eclampsia and toxaemia during the year, although a larger number of cases of these conditions has occurred, but the women have been moved to hospital early and recovered under the appropriate treatment.

The Doctors and Midwives in the County appreciate the opportunity for discussion which arises over the cases of maternal death, and are anxious to avail themselves of all the facilities provided by the County Council.

(j) *Puerperal Pyrexia.*

The number of cases of Puerperal Pyrexia notified during the year was 43. In 85 cases midwives called in a doctor on account of a rise of temperature and in 18 of these cases a notification was subsequently made. The number of patients removed to hospital was 24 and there were six deaths.

Enquiries are made into each case of Puerperal Pyrexia by the whole time staff of the County Council, but it was not found necessary to take special action in any case.

(k) *Abortions and Still Births.*

There were 80 abortions and 43 still births notified by midwives during the year. Although enquiries are made into every case of still birth, it is manifest that without special investigations and complete co-operation from the patient and her attendants it is exceedingly difficult to obtain useful information.

(l) *Discharging Eyes.*

There were 103 infants for whom medical aid was sought by midwives on account of discharge from one or both eyes. Enquiry was made into every case, but in no case was the condition a serious one. The number of children removed to hospital for special treatment was 10 and in no case was there any impairment of vision.

(m) Fees Paid.

(1) To general practitioners for attendance when called in by midwives—claims were received in respect of 1,034 patients and fees paid amounting to £1,534 18s. 6d.

(2) To independent midwives or nursing associations a fee of 10/- per case when a patient who has engaged a midwife is removed to hospital on recommendation of a doctor. Forty-four such cases were approved at a cost of £22.

(3) To midwives or associations a fee of 25/- is paid where the husband is out of benefit and unable to pay a fee for the services of the midwife. Ten cases were approved at a cost of £12 10s. 0d.

3. Child Welfare Services.*(a) Health Visiting.*

There are 13 whole time officers employed for health visiting by the County Council and 145 district nurses who undertake the work in their district as part of the County Council health work generally. The following is the summary of visits paid during the year by all Health Visitors.

To children under 1 year of age	...	First visits,	4,287
		Total visits,	29,678
To children between 1 and 5 years	...	Total visits,	44,898

(b) Measles Visiting.

During the year 173 children under 5 years of age were reported as suffering from measles. Visits were paid to all these children by the nurses and health visitors and advice given to the parents on the care of the child in order to prevent, if possible, the supervention of complications. Thirty-four of the children were nursed during their illness by the district nurses under the arrangements made with District Nursing Associations.

(c) Child Welfare Centres.

There are now 58 centres in the County, new ones being opened at Almondsbury and Chipping Campden.

Total number of sessions	...	...	...	...	1,285
Total number of new children—under 1 year	...			...	1,870
		over 1 year	...	...	926
Total number of attendances—under 1 year	...			...	17,255
		over 1 year	...	...	26,837

The Maternity and Child Welfare Officers paid 144 visits to centres during the year.

(d) Admissions to Hospitals.

Children under 5 years of age are admitted to various hospitals in the County by arrangement.

During 1938, 75 children were admitted—42 suffering from rickets, marasmus or similar complaint, 10 notified as ophthalmia neonatorum and 23 with orthopaedic defects.

(e) *Dental Treatment.*

The Dental Surgeons visit each welfare centre in their area during the year and inspect the mouths of young children and advise treatment. In addition, children are referred to the dentists by the medical officers or nurses.

3. Additional Services undertaken by the Maternity and Child Welfare Committee.

(a) *Registered Nursing Homes.*

The registration of private Nursing Homes is delegated to the Maternity and Child Welfare Committee, and visits of inspection are made by Dr. Morris Jones and Dr. Isabel Gordon. Two applications for registration were received during 1938, both of which were approved. There are now 21 homes under supervision—three of which have not taken patients for over 12 months. Most of the homes charge moderate fees and the accommodation and attention is reasonably satisfactory and no adverse reports have been received by doctors who send patients to these homes. Thirteen voluntary hospitals are granted exemption from inspection annually.

(b) *Infant Life Protection.*

All foster-mothers are required to give notice that they intend to take charge of a child under 9 years of age apart from its parents, and, except in cases of emergency, the home is inspected before the child arrives. Visits are then paid every six weeks by the Health Visitors, and at least twice a year by the Assistant Medical Officers. The standard of home varies considerably, but on the whole, having regard to the small sums of money paid either by the child's parent or by voluntary bodies, the care and attention given to the children is adequate, and in some cases remarkably good. At the end of the year there were 144 children in the care of 124 foster parents.

SECTION G.

GENERAL.

1. Tuberculosis.

NEW CASES AND MORTALITY DURING 1938.

<i>Age Period</i>		<i>New Cases</i>				<i>Deaths</i>			
		<i>Pulmonary</i>		<i>Non-</i>		<i>Pulmonary</i>		<i>Non-</i>	
		<i>M.</i>	<i>F.</i>	<i>M.</i>	<i>F.</i>	<i>M.</i>	<i>F.</i>	<i>M.</i>	<i>F.</i>
Under 1 year	...	—	—	1	—	—	—	1	—
1—5 years	...	2	1	18	10	—	—	—	2
5—10	„ ...	6	11	30	18	1	—	5	4
10—15	„ ...	8	5	9	10				
15—20	„ ...	15	23	14	9				
20—25	„ ...	25	25	5	6	16	22	3	4
25—35	„ ...	37	40	2	3	18	21	2	1
35—45	„ ...	24	11	5	3	20	12	2	3
45—55	„ ...	19	8	—	2	17	10	3	2
55—65	„ ...	13	8	2	1	10	2	1	—
65 and upwards	...	3	4	—	1	6	4	1	3
		152	136	86	63	88	71	18	19

The following is a summary of the cases on the Register of notifications in 1938 :—

	<i>Pulmonary</i>	<i>Non-Pulmonary</i>	<i>Total Cases</i>
Number of cases removed from Register during year by reason of :—			
(a) Withdrawal of Notification	6	3	9
(b) Recovery from the disease	74	134	208
(c) Death	159	30	189
(d) Left County	94	55	149
Number of cases remaining on Register at 31st December, 1938	1,416	974	2,390

Dispensaries.

The Tuberculosis Officers attend weekly at six dispensaries and periodically visit fifteen out-stations. They also see patients unable to attend at one of these places in their homes and hold frequent consultations with the usual medical attendants.

The total new cases reported and the attendances at dispensaries were :—

New cases reported (County only) :—

Pulmonary	288
Other Forms	149
Total	437
New cases examined (including contacts) ...	1,318
Attendances	5,814

Shelters.

The number of shelters in use during 1938 was 110. The number of patients to whom they were newly loaned during the year was 30, and the total persons who had the use of a shelter during 1938 was 102.

Residential Institutions.

Owing to the rebuilding of the men's section of the Standish House Tuberculosis Institution, accommodation for male patients was found in the City Hospital at Over. The number of admissions to Institutions—Sanatoria and Hospital—during 1938 was :—

Pulmonary :—					
Adults—Male	83				
Female	82				
				165	
Children	...			23	
Non-Pulmonary :—					
Adults—Male	19				
Female	22				
				41	
Children	...			101	
Total	...			330	

Compulsory Powers.

No case was removed compulsorily to a Sanatorium or Hospital under Section 172 of the Public Health Act, 1936, during the year, and, so far as information has been given, no action was taken under the Public Health (Prevention of Tuberculosis) Regulations, 1925, with respect to employees in the milk trade.

Home Visits by Nurses.

The work of the Tuberculosis Officers is supplemented by visits to the homes of patients by nurses with a view to their directions being carried out and to improvements in the conditions under which the patients are living. The nurses undertaking this work in 1938 were the 13 whole time Health Visitors, and 137 District Nurses.

The number of these visits in 1938 was 9,902.

2. Venereal Diseases.

The following Table shows the number of County cases coming under treatment during 1937 at the various Treatment Centres serving Gloucestershire.

<i>Treatment Centre at</i>	<i>Syphilis</i>	<i>New Cases</i>				<i>Total</i>	<i>Attend- ances</i>	<i>All Cases</i>	
		<i>Soft chancres</i>	<i>Gonor- rhea</i>	<i>Not Venereal</i>				<i>In-Pt. Days</i>	<i>Specimens exd.</i>
Cheltenham ...	25	1	47	24	97	3,946	263	272	
Stroud ...	2	—	15	3	20	326	—	—	
Gloucester ...	5	1	28	6	40	1,280	120	374	
Bristol ...	12	—	17	13	42	873	79	315	
Total ...	44	2	107	46	199	6,425	462	961	

3. Cancer.

The following are the deaths from Cancer in the area by age distribution. The figures shown are the aggregates of Urban and Rural areas.

<i>Age Group</i>			<i>Males</i>	<i>Females</i>	<i>Total</i>
2- 5 years	...	...	—	1	1
5-15 „	...	...	—	—	—
15-25 „	...	...	3	2	5
25-35 „	...	...	4	1	5
35-45 „	...	...	6	13	19
45-55 „	...	...	19	57	76
55-65 „	...	...	53	88	141
65-75 „	...	...	92	100	192
75 and over	...	...	61	82	143

There have been no changes during the year in the available facilities for the diagnosis and treatment of Cancer in the area. Arrangements are in force for a contribution by the County Council of one guinea per week towards the cost of in-patients treated by radium at the Bristol Royal Infirmary.

4. Welfare of the Blind.

The following are extracts from the Annual Report of the County Association for the Blind, which is the agent of the County Council for the care of the Blind in the County.

Registration :—

Loss by death	...	...	...	...	...	54
Left County	...	...	...	...	...	6
New Cases	...	...	...	...	...	66
Total on Index on March 31st, 1939	...	...	...	...	...	590

Seventeen of those classified as “New Cases” were transferred from other areas. Forty-eight cases were certified by Ophthalmic Surgeons as “Blind within the meaning of the Act.” Nine of these had previously been registered on the Watching List. 125 cases of Partial Blindness are kept under observation and are visited at intervals by the Home Teachers who help them to attend Hospitals and Clinics for advice and treatment.

Education.

There is only one child under five years old at present Registered as Blind in the County. He is at the Sunshine Home at East Grinstead. There are 16 children between the ages of five and 16. Ten of these children are at schools for the Blind, one is at a mental asylum, one is epileptic and paralysed, one crippled boy has lessons at his bedside in hospital, one child of only just five years old has not yet started school, while the parents of the two remaining children will not allow them to go to a Blind School at present.

There are nine children between the ages of 16 and 21. Of these, one is at the Royal Normal College, three are being trained at the Royal School for the Blind, Westbury-on-Trym, two are employed and the other three are unfit for training at an Institution but are all able to read Braille and work at pastime handicrafts under the supervision of the Home Teachers.

Of the three adult trainees, two men are being trained in Basket-making, one at Bristol and the other at Birmingham. The Massage Student training in London has had extremely good reports and hopes to sit for his final examination this summer.

Glos. Fund for the Blind.

The Association has received the splendid sum of £1,038 7s. 0d. for the 12 months ending March 31st, 1939, from the collections undertaken by Mr. King Cummings on behalf of the joint fund of the Glos. County Association for the Blind and the National Institute for the Blind. This is a wonderful achievement particularly considering how very difficult and unsettled the 12 months mentioned have been, and the Committee wishes to thank Mr. King Cummings and his staff and all those voluntary workers, who by helping in the organisation of Whist Drives, Emblem Days and Envelope Collections, etc., have helped to make this fund such a success.

Grants and Pensions.

The Committee wishes to express its deep gratitude for the Pensions and Grants received from various Societies for the Blind. Gydes Charity in addition

to paying the fees for two Blind Babies at the East Grinstead Sunshine Home, made a most generous donation of £75 for the care of Blind Children.

Received during the year :—

Hetherington Charities for the Aged Blind	...	21
Royal Blind Pension Society	... ..	1
Painter Stainer's Company	... ..	1
Clothworkers' Company	... ..	3

In addition to these, a special grant of £5 was made from Sir Beach Towes' Ex-Service Fund.

Two other gifts require special mention. Mr. J. O. Kirkley has most kindly given a Talking Book Machine for the use of the Cheltenham Blind, and a Guide Dog, Nigger, has been given by the Guide Dogs for the Blind Association; she has proved of enormous benefit to her owner.

Home Teaching Service.

There has been a change in the Home Teaching Staff; Miss Bedford retired in September after more than seven years very useful work for the Association and Miss Meredith-Cooper has been appointed to take her place.

There have been no alterations in the Home Teachers' areas. The numbers on March 31st were :—Miss Hobbs, 170 Blind and 25 Watching Cases; Miss Meredith-Cooper, 161 Blind and 37 Watching Cases; Miss Wynn Lloyd, 165 Blind and 43 Watching Cases; and Miss Brain (half-time), 94 Blind and 20 Watching Cases.

During the year 5,433 visits have been paid to Blind people and 376 lessons given in embossed type and pastime handicrafts. The passing of the Blind Persons' Act, 1938, made extra work for the Home Teachers during the year and in various other ways the scope of their work continues to increase. Air Raid Precautions have been given much thought, and lectures on First Aid and Gas, etc., have been attended. Particular attention has been paid to Blind Householders living alone and in some cases dark curtains have been provided; any cases specially needing care in an emergency have been notified to the Air Raid Warden responsible.

Necessitous Blind.

The Case Committee has met quarterly and has considered between 225 and 230 cases at each meeting. Grants amounting to £4,317 6s. 2d. have been administered to Blind People and their Sighted Dependents. The Committee wishes again to extend its sincere thanks to the Almoners for their valuable work.

The County Council has authorised the County Association for the Blind to make contributions towards the funeral expenses of Blind Persons and their Dependents in any case where they consider such assistance necessary, subject to a maximum of £10 in any one case.

The Executive Committee decided that the Association should pay the Voluntary Insurance Stamps for certain Blind Persons. Applications for these payments are considered by the Case Committee.

Special Facilities for the Blind.

The Committee again wishes to thank the Albany Ward Theatre Company for the special facilities given to the Blind at their Cinemas at Cheltenham, Cirencester and Stroud, and it is also most grateful for the special fares afforded by the Red and White 'Bus Company.

Sales of Work.

Sales during the year at Sales of Work or privately by the Home Teachers have amounted to £158 17s. 8d. This sum does not include goods sold at Sales of Articles made at the Cheltenham Workshops nor goods sold privately by the Blind themselves, in some cases this is quite a considerable amount. Very successful Sales of Work were held at Falfield Hut (£16 7s. 7d.), kindly organised by Mrs. Robert Lister; at Oddington Lodge, near Stow-on-the-Wold, by the kindness of Mrs. Goff (£37 7s. 0d.); and at Trewsbury, Coates, by the kindness of Colonel and Mrs. Tabor (£28 9s. 4d.). Stalls were held at the Three Counties Show, Gloucester, the Cheltenham Rose Show, the Frampton Cotterell Miners' Welfare Society Show, and by kind permission of Miss Denly at her Sale of Work in Cirencester. Work was also sold at the Queen's Hotel, Cheltenham, and at several Women's Institutes. The takings at the Three Counties and the Cheltenham Rose Shows broke all records, which was most satisfactory as it serves to prove the high quality of the goods made by the Blind. The Committee is very grateful to all those who in any way help to make Sales of Work possible and successful. The Workers are most anxious and grateful for any opportunity to exhibit and sell their work.

Social Centres.

The past year has been a very successful one with regard to Social Clubs and it is pleasant to record that a new Monthly Meeting has been started at Bromsberrow Heath. Only seven Blind People are able to attend but these meet at the home of one of the members, where tea is provided. The Clubs at Cheltenham, Charfield, Cinderford, Cirencester, Coleford District, Kingswood and Stroud all continue to be well attended. Stroud and Cirencester each held a joint Club during the year and a most enjoyable afternoon on both occasions was the result. During the summer, Stroud Club visited Severn Beach as the guests of the Stroud Rotary Club whose members also provided transport, while Cinderford Club went on a Mystery Tour. Each of the other Clubs was invited to a Garden Party which was in every case very much enjoyed. The Committee wishes to thank all those who gave parties during the summer and also Toc H, the League of Women Helpers and the Dickens Fellowship, who entertained the Cheltenham Blind at Christmas.

Registered Home Workers.

During the year Mr. F. Jefferies, of Cirencester, has ceased to be a Registered Home Worker; his excellent work will be very much missed at Sales of Work. Miss Mavis Pritchard, of Ruardean Hill, Drybrook, has been accepted as a Registered Home Worker.

Wireless for the Blind.

The total number of sets in use in the County besides the 200 loaned and maintained by Mr. Schroder is 286, and 202 of these are owned by the Blind.

themselves. Mr. Fuller re-installed 25 sets for Mr. Schroder and a further seven were changed to new addresses.

The British Wireless for the Blind Fund granted us four new three valve battery sets, three all mains three-valve, and two all mains two-valve, together with many accessories for the re-conditioning of older sets when necessary.

Second-hand sets were received from Mrs. Hutton Dawson, Mrs. F. J. Healing, Miss Holt, Mrs. Turton and Miss Waller.

During the year 35 free licences were issued and 38 cancelled, the latter owing to death or removal.

In view of the increasingly difficult receiving conditions the type of set issued by the British Wireless for the Blind Fund this year has been altered, and they are all now three-valve battery or all mains receivers. Special care has been taken not to increase the battery consumption, so that they should not cost more to maintain.

Receipts for the year amounted to £11 3s. 6d. which, with the starting balance of 6s. 4d. made a total of £11 9s. 10d. Expenses totalled £11 12s. 8d., leaving a deficit of 2s. 10d. as at this date.

Cheltenham Workshops for the Blind.

The number of Workers on the Register during the year has been 22 and the average daily attendance 20.91. In addition one partially sighted man, not registered as blind, and one man of 73, who had previously retired, have been employed.

Sales for the year have fallen from £1,040 to £977, there being a decrease in all departments. This is not surprising, owing to the general state of anxiety which has prevailed. In consequence there has been a considerable increase in the stock of manufactured goods. The competition of cheap foreign-made baskets and mats is very severe, and an increase in the number of orders from Public Authorities would be very welcome.

5. National Health Campaign.

The County Council took an active part in the local activities in connection with the National Health Campaign from September, 1937, until March, 1938.

In conjunction with District Councils and the National Milk Publicity Council ten public meetings were held in various parts of the County, and cinematograph displays were given with educational sound films. The meetings were fairly well attended and talks on the various aspects of the health services were given by Medical Officers of the County Health Department, District Medical Officers of Health and Officers of the National Milk Publicity Council.

A course of three lectures was given at the Tewkesbury Women's Social Club and special health talks were arranged at each of the 56 Child Welfare Centres.

The literature supplied by the Central Council for Health Education was distributed throughout the County to Schools, Welfare Centres, Voluntary Organisations, etc.

In addition to the special efforts made during the National Health Campaign, the Travelling Health Exhibition made two tours of a fortnight in the Spring and Autumn when twenty villages were visited. The exhibition forms a valuable aid in health education, and whilst a period of intensive activity and propaganda as embodied in the National Health Campaign may stimulate interest for a time, the greatest value will accrue from the continuous activity of an organisation such as the local travelling exhibition which is welcomed in the villages, and is brought into immediate touch with the people.

Difficulties of staffing militate against a wider use of the exhibition which could, with value, be extended in scope and employed with greater frequency.

TABLE I.—BIRTHS AND DEATHS.

DISTRICT	Estimated Population	BIRTHS					DEATHS								
		Live Births			Still Births		Total			Under 1 Year					
		Legitimate	Illegitimate	Total	Rate	Legitimate	Illegitimate	Total	No.	Crude Rate	Corrected Rate	Legitimate	Illegitimate	Total	
Urban.	51,900	663	39	702	13.5	23	—	23	710	13.7	10.1	24	—	24	34
Cheltenham M.B.	5,015	64	1	65	13.0	2	—	2	64	12.8	10.0	3	—	3	46
Charlton Kings	8,138	144	9	153	18.8	4	—	4	108	13.3	10.3	7	—	7	46
Cirencester	15,660	303	11	314	20.0	9	—	9	172	11.0	11.4	11	—	11	35
Kingswood	14,380	233	4	237	16.5	17	—	17	165	11.5	11.2	10	—	10	42
Mangotsfield	3,253	38	1	39	12.0	2	—	2	26	8.0	6.2	—	—	—	—
Nailsworth	14,120	177	6	183	13.0	3	1	4	180	12.7	9.9	10	—	10	55
Stroud ...	4,334	68	2	70	16.2	—	—	—	72	16.6	13.8	4	—	4	57
Tewkesbury															
TOTAL	116,800	1,690	75	1,765	15.1	59	1	60	1,497	12.8	10.3	69	—	69	39
Rural.	15,150	238	6	244	16.1	6	—	6	201	13.3	10.5	7	—	7	29
Cheltenham	12,290	149	9	158	12.9	8	—	8	169	13.7	11.3	12	1	13	82
Cirencester	14,600	280	5	285	19.5	6	—	6	171	11.7	9.8	10	—	10	35
Dursley	19,080	321	12	333	17.5	13	1	14	259	13.6	12.5	17	1	18	54
East Dean	23,130	358	14	372	16.1	13	1	14	298	12.9	10.1	18	2	20	54
Gloucester	10,620	160	4	164	15.4	2	—	2	115	10.8	11.0	7	—	7	43
Lydney	7,233	102	7	109	15.1	2	—	2	102	14.1	11.0	5	—	5	46
Newent	15,310	243	9	252	16.5	6	—	6	200	13.1	10.6	11	—	11	44
North Cotswold	7,293	79	6	85	11.7	4	—	4	86	11.8	9.6	3	1	4	47
Northleach	28,660	482	8	490	17.1	22	—	22	316	11.0	9.8	16	2	18	37
Sodbury	21,560	282	12	294	13.6	10	—	10	305	14.1	10.7	12	2	14	48
Stroud ...	5,948	87	3	90	15.1	3	—	3	72	12.1	11.0	4	—	4	44
Tetbury	19,480	337	7	344	17.7	6	—	6	241	12.4	10.5	16	—	16	47
Thornbury	9,126	150	—	150	16.4	2	—	2	129	14.1	13.5	13	—	13	87
Warmley	17,320	289	17	306	17.7	17	—	17	233	13.5	13.2	20	1	21	69
West Dean															
TOTAL	226,800	3,557	119	3,676	16.2	120	2	122	2,897	12.8	10.9	171	10	181	49
Administrative County	343,600	5,247	194	5,441	15.8	179	3	182	4,394	12.8	10.6	240	10	250	46
Total															

TABLE II. 1938.

DISTRICT	Population		Scarlet Fever			Diphtheria			Enteric Fever			Puerperal Pyrexia			Pneumonia		
	Estimated to mid. 1937		Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths
Urban.																	
Cheltenham M.B. .	51,900		96	78	—	179	178	6	2	2	—	14	5	1	45	1	27
Charlton Kings ...	5,015		5	4	—	1	1	—	—	—	1	—	—	—	6	—	4
Cirencester	8,138		6	3	—	4	4	1	—	—	—	—	—	—	6	—	3
Kingswood	15,660		63	25	—	30	23	1	—	—	—	2	—	1	7	—	8
Mangotsfield	14,380		30	18	—	11	10	—	1	—	—	1	—	—	2	—	9
Nailsworth	3,253		4	4	—	—	—	—	—	—	—	—	—	—	—	—	—
Stroud	14,120		33	29	—	9	9	1	—	—	—	1	—	—	14	—	3
Tewkesbury	4,334		30	30	—	—	—	—	—	—	—	3	2	—	—	—	2
TOTAL U.D. ...	116,800		267	191	—	234	225	9	3	2	1	21	7	2	80	1	56
Rural.																	
Cheltenham	15,150		19	15	—	12	12	2	—	—	—	2	1	—	4	—	5
Cirencester	12,290		8	5	—	5	3	—	—	—	—	4	—	—	19	—	5
Dursley	14,600		50	31	—	30	29	1	—	—	—	1	—	—	14	—	13
East Dean	19,080		14	13	—	5	4	3	—	—	—	2	—	—	6	—	13
Gloucester	23,130		16	11	—	9	9	—	3	3	—	4	3	—	37	13	13
Lydney	10,620		13	9	—	2	2	—	—	—	—	1	—	—	21	3	10
Newent	7,233		14	7	—	4	3	1	—	—	—	—	—	—	8	—	2
North Cotswold ...	15,310		15	9	1	3	3	1	—	—	—	1	1	—	18	—	3
Northleach	7,293		6	4	—	1	1	—	—	—	—	—	—	—	7	—	2
Sodbury	28,660		63	30	—	12	10	—	—	—	—	7	—	4	71	—	15
Stroud	21,560		14	12	—	8	5	—	2	2	—	4	—	—	14	—	9
Tetbury	5,948		6	6	—	5	4	1	—	—	—	1	1	—	7	1	3
Thornbury	19,480		25	9	—	16	5	—	—	—	—	7	2	2	31	3	9
Warmley	9,126		33	11	—	8	8	—	1	—	—	2	—	—	7	—	8
West Dean	17,320		48	41	—	24	24	—	—	—	—	1	—	1	33	—	17
TOTAL R.D. ...	226,800		344	213	1	144	122	9	6	5	—	37	8	7	297	20	127
Administrative County	343,600		611	404	1	378	347	18	9	7	1	58	15	9	377	21	183

NOTIFIABLE INFECTIOUS DISEASES.

Erysipelas			Cerebro-Spinal Meningitis			Polio-myelitis			Encephalitis Lethargica			Polio-encephalitis			Dysentery			Malaria			Ophthalmia Neonatorum			TOTAL		
Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths	Cases	Admissions to Hospital	Deaths
15	-	-	1	1	-	1	1	-	1	-	2	1	1	-	2	-	-	-	-	-	1	1	-	358	268	36
1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	13	5	6
3	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	7	4
4	-	-	-	-	-	-	-	1	-	-	-	-	-	-	3	1	-	-	-	-	1	-	-	110	49	11
6	1	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	52	29	10
-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	8	4	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	67	38	4
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	34	32	2
35	1	-	1	1	-	3	1	1	1	-	3	2	1	1	11	1	-	-	-	-	4	1	-	662	432	73
7	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	46	31	7
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	8	5
5	-	-	1	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	61	15
8	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	38	19	16	
5	3	-	-	-	-	2	2	-	-	-	-	-	-	-	2	1	-	-	-	-	4	1	-	82	46	13
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	14	10
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	30	10	3
9	1	-	-	-	-	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-	49	14	6
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	5	2
19	3	-	1	1	1	2	-	-	-	-	-	-	-	1	12	-	-	-	-	-	1	-	-	188	44	21
4	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	19	9
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	12	4
8	-	-	-	-	-	-	-	-	-	-	1	-	-	-	7	-	-	-	-	-	-	-	-	94	19	12
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	19	8
8	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114	67	19
87	13	-	3	2	3	5	2	-	2	-	2	-	-	1	25	1	-	-	-	-	11	2	-	961	388	150
122	14	-	4	3	3	8	3	1	3	-	5	2	1	2	36	2	-	-	-	-	15	3	-	1623	820	223

TABLE III.—1938.

CAUSES OF AND AGES AT DEATH.

Causes of Death	All ages	Under 1 year	1-2 years	2-5 years	5-15 years	15-25 years	25-35 years	35-45 years	45-55 years	55-65 years	65-75 years	75 years and over
1. Typhoid and paratyphoid fever	1	—	—	—	—	—	—	—	—	1	—	—
2. Measles	9	1	—	3	1	—	—	1	—	—	—	—
3. Scarlet Fever	1	—	—	—	—	—	—	—	—	—	—	—
4. Whooping Cough	9	4	1	—	—	—	—	—	—	—	—	—
5. Diphtheria	18	—	1	10	3	—	—	—	—	—	—	—
6. Influenza	76	1	—	2	4	—	2	4	10	14	19	18
7. Encephalitis Lethargica	5	—	—	—	—	—	—	1	—	2	—	—
8. Cerebro-spinal Fever	3	1	—	—	—	2	—	—	—	—	—	—
9. Tuberculosis of respiratory system	159	—	—	—	1	38	39	32	27	12	8	2
10. Other Tuberculous diseases	37	1	1	6	4	7	3	5	5	1	3	1
11. Syphilis	7	1	1	—	—	—	—	1	—	2	2	—
12. General paralysis of the insane, tabes dorsalis	13	—	—	—	—	—	—	2	3	7	1	—
13. Cancer, malignant disease	582	—	—	1	—	5	5	19	76	141	192	143
14. Diabetes	75	—	—	—	2	2	—	5	1	10	30	25
15. Cerebral Haemorrhage	266	—	—	—	—	—	—	5	18	40	86	117
16. Heart disease	1,228	—	—	—	4	5	12	24	55	171	394	563
17. Aneurysm	8	—	—	—	—	1	1	—	1	2	2	1
18. Other circulatory diseases	271	—	—	—	—	—	—	—	10	34	82	145
19. Bronchitis	110	7	—	1	1	1	1	2	3	16	27	51
20. Pneumonia (all forms)	183	29	7	11	6	2	10	14	19	28	25	32
21. Other respiratory diseases	34	2	—	—	—	1	1	4	3	6	12	5
22. Peptic Ulcer	33	—	—	—	—	—	4	3	10	6	4	6
23. Diarrhoea, etc.	10	8	2	—	—	—	—	—	—	—	—	—
24. Appendicitis	33	1	—	1	2	3	3	6	2	9	3	3
25. Cirrhosis of liver	13	—	—	—	—	1	—	—	3	3	5	1
26. Other diseases of liver, etc.	20	—	1	—	1	—	2	1	1	1	7	6
27. Other digestive diseases	98	4	1	6	1	2	3	5	8	21	24	23
28. Acute and chronic nephritis	152	—	—	—	4	4	8	2	16	38	34	46
29. Puerperal sepsis	9	—	—	—	—	3	4	1	1	—	—	—
30. Other puerperal causes	12	—	—	—	—	3	6	3	—	—	—	—
31. Congenital debility, premature birth, malformation, etc.	169	168	1	—	—	—	—	—	—	—	—	—
32. Senility	154	—	—	—	—	—	—	—	—	—	11	143
33. Suicide	46	—	—	—	—	1	7	6	16	9	4	3
34. Other violence	174	9	1	5	9	23	17	13	20	20	21	36
35. Other defined diseases	366	13	5	2	14	15	15	29	40	56	80	97
36. Causes ill-defined or unknown	10	—	—	—	—	—	—	1	—	—	5	4
TOTALS	4,394	250	25	42	64	128	143	190	348	650	1,083	1,471

